TECHNOLOGY DEPT.

Chilton's MOTOB

AGE

Y 1952

MAY 1 9 1952 DETROIT

In This Issue:

A Series on Safety Service

Motor Engineered

for replacement service FOR EACH MAKE AND MODEL OF ENGINE You're always right when you specify Hastings & They're Motor Engineered to give you the right compation of rings for any engine.

Millions of installations—and service under all opating conditions—prove that Hastings meets the specimentary replacement requirements of each individual engineers.



Motor Engineering gives you specific ring types and ring combination for specific engines there's no guess work, no confusion

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Right for re-bore, re-ring and resleave. The famous Steel-Vent, basic oil control ring in Motor Engineered Sets, is engineered exclusively for replacement terms and for all replacement terms and for all re-

Motor Engineering gives you the right answer in chrome. All Hastings heavy-duty sets are chromefaced sets. Hastings gives you coverage in passenger car chrome sets, also.



HASTINGS STEEL-VENT PISTON RINGS

HASTINGS MANUFACTURING COMPANY, HASTINGS, MICHIGAN . HASTINGS LTD., TORONTO

TOUGH on oil-pumping . GENTLE on cylinder walls

Piston Rings • Spark Plugs • Oil Filters • Casite • Drout



COM

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Don't wait for customers to ask for something they can use themselves to clean their radiator cooling systems. Beat them to the punch by suggesting that you do a cooling system clean-out job for them. These two Permatex cooling system products set you up in the profitable business of Radiator Cleaning Service. It is doubly profitable service... you make a generous profit on the chemicals and you make a profit on labor too!

COOLING SYSTEM CLEANERS

Permatex "Cooling System Cleaner" package contains two products:

(1) A non-acid powder cleaner that quickly removes rust, scale, grease and slime in one simple operation.

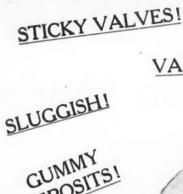
(2) Double Action Radiator Cement that seals leaks and prevents the formation of rust.

Permatex "Liquid Radiator Cleaner" is a fast acting acid. It completely dissolves rust and scale from the radiator, cylinder head and block. So effective that reverse flushing is rarely necessary.

PERMATEX COMPANY, INC. Brooklyn 35, N. Y.



TO



DEPOSITS!



DON'T let this happen to your customers!



Read these FACTS ... you'll see why!

FACT 1 Heavy-duty motor oil is now being used at car manufacturers' plants ...on their proving grounds...in their factory driveaways.

FACT ② Many new car manuals now specify heavy duty motor oil.

FACT 3 Custom-Made HAVOLINE is a heavy duty (high detergent) motor oil . . . even exceeds heavy duty requirements.

FACT @ Custom-Made HAVOLINE has proved itself a preventive of sticky valves, gummy deposits, etc.

CUSTOM-MADE HAVOLINE

Even meets military standards for heavy duty engine oils used in tanks, trucks and transports.

The Texas Company



Chilton's



WITH WHICH IS COMBINED AUTOMOBILE TRADE

Reg II S Pat Off

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For THE AUTOMOTIVE SERVICE INDUSTRY

LXXI, No. 6

May, 1952

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952

Why You Get More Business When the Products You Sell Are Advertised in Farm Journal... Largest Selling Magazine in Rural America

With coverage like a local newspaper, Farm Journal builds better business for you among your out-of-town rural customers

If you are located in a town of less than 25,000 people, you are a typical dealer, because it is in such towns that 81 percent of America's car dealers and 70 percent of America's independent repair shops are located. And if you are a typical dealer, you know that you get more than half your business from out-of-town, rural customers.

How important are rural customers?

You know that rural customers are important to your business. They are equally important to automotive jobbers and manufacturers the country over.

For example, car ownership is much more prevalent among rural families than among urban families . . . nearly half the nation's car owning families live in Rural America.

Rural families also own nearly a third of all the trucks in the nation, 3½ million tractors, and a wealth of other equipment that makes multiple sales opportunities for lubricants, piston rings, spark plugs, etc.

Your shop orders show that more than half your parts and service business comes from out-of-town and rural customers. As a matter of fact, dealers located in towns of less than 10,000 people sell 65 percent of the tires sold and 75 percent of the batteries; make 58 percent of the oil changes.

Why advertisers use Farm Journal

Your jobbers and their suppliers realize your dependence on this big rural market. That's why more and more advertisers are using Farm Journal to support you. It's a wise choice from the manufacturer's point of view, because Farm Journal is the biggest, largest selling magazine in Rural America—a wise choice from your standpoint too.

Why advertising in Farm Journal is important to you

Yes, Farm Journal is big nationally, but what you're interested in is its local impact where you are—and your jobber is interested in this too.

Because it is so big, and because it is the kind of magazine it is, specializing in Rural America and the interests of rural people, it is also the biggest magazine where you are located—far bigger than any other magazine in America.

In the better rural areas Farm Journal has coverage along rural routes like the local newspaper. That's why advertising in Farm Journal gives you what you've always asked for—dense local coverage where you are.

Knowing your interest in local coverage, Farm Journal has prepared a series of County Analysis Folders that show the number of farm families in your locality, the number of Farm Journal families in your locality, the number of farm-owned automotive units, what farm families spend in retail establishments.*

To sum up . . .

A prominent automotive jobber in Texas sums the whole situation up. Speaking for himself and his dealers, he says: "We fully realize the importance of the farm trade. Today's power equipment creates a great farm market for the products we sell. We are only too glad to tie in with the advertisements of nationally known manufacturers of replacement parts. Having been reared on a farm myself, I know everyone in the farm family reads every item in Farm Journal, including all the ads."

No doubt about it: you get more business when your products are advertised in Farm Journal—Largest selling magazine in Rural America.



THROUGH ITS "KEEP 'EM ROLLING" EDITORIAL PROGRAM, Farm Journal constantly promotes better maintenance on the farm. This feature is welcomed by dealers as well as farmers for the emphasis it places on getting service work done promptly, when both can profit from it.

*If your jobber or manufacturer has not shown you the County Analysis Folder for your state, ask him for it. Or, if you would like a copy of your own, write Dealer Service Department, Farm Journal, Philadelphia 5, Pa.



If you've tried Moog rings and still prefer some other brand—fine—"Everyone to his own taste" as the old lady said when she kissed the cow.

But if you haven't tried Moog rings, then you owe it to yourself as an automotive mechanic to install just one set and make your own comparisons. Compare price, oil control, wall tension, break-in, performance—anyway you like. We welcome comparisons because we don't believe there's any finer ring made.

Moog Piston Rings may be just what you're looking for and if they are—More Power To You and Full Power for your ring jobs. Will be glad to send you the name of your closest Moog jobber—just write



MOOG INDUSTRIES INC., 6650 Easton Ave., St. Louis 14, Mo.

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, 1952

Tolken you reed BEARINGS Quality ** Coverage ** Service



Ask your Federal-Mogul Tobber

Your Federal-Mogul jobber stocks cam bearings as another function of the complete engine bearing service.

Singly or in sets, split or full round, Federal-Mogul cam bearings help you do your best work in engine reconditioning. Ask your Federal-Mogul jobber!

Engine Bearings (Main, Connecting Rod and Camshaft) • Bushings • Connecting Rod Service—Exchange Insert Rods, Rebabbitted Rods Connecting Rod Bolts and Nuts • V-Seam Piston Pin Bushings • Shims and Shim Stock



FEDERAL-MOGUL SERVICE

(Division of Federal-Mogul Corporation)

DETROIT 13, MICHIGAN



Chilton's MOTOR AGE, MAY, 1952

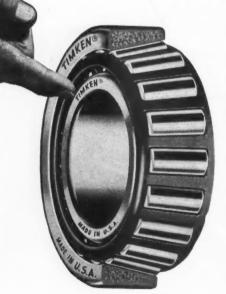




Want to be remembered by customers ?

Here's one way to make sure your customers won't forget you. Keep reminding them that you use nothing but the best replacement parts. When you install a Timken® tapered roller bearing, always be sure to point it out to customers. The trade-mark "Timken" is the most well-known, most respected name in bearings.

Just tell 'em it's "TIMKEN""

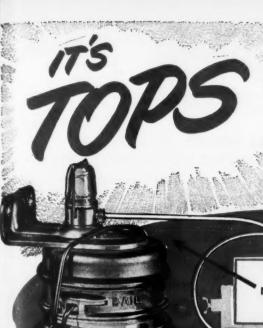


IMKEN tapered roller bearings are first choice as original equipment with leading car manufacturers. And there are four good reasons why: (1) Timken bearings have advanced design; (2) they are made of Timken fine alloy steel; (3) they are manufactured to extreme limits of precision; (4) quality is rigidly controlled at every step in production.

When you replace a tapered roller bearing, make sure you use a Timken bearing. Look for the trade-mark "Timken" on every bearing. FREE BOOKLET! Send today for "Timken Tapered Roller Bearings, Their Care and Maintenance" to Dept. AM-5, The Timken Roller Bearing Company, Canton 6, Ohio. Cable address: "TIMROSCO".

MOT JUST A BALL 🗘 NOT JUST A ROLLER 🕮 THE TIMKEN TAPERED ROLLER 🗢 BEARING TAKES RADIAL 🗘 AND THRUST $-\mathbb{O}-$ Loads or any combination $-\hat{\mathbb{O}}-$





OLLINGSHEAD CORPORATION

MORE PROFIT FEATURES

Easy to Install, Nothing to Adjust. Rate of flow of lu-bricant is factory-set. No moving parts. No service

2. Demand is Growing. More and more motorists are ask-

engines new and old.

WHITE Lubricator!

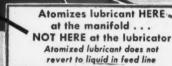
ing for top-oilers—recom-mended for use with hy-draulic valve lifters and all

Steady Motor Rythm profits keep coming with MOTOR RYTHM sales after you sell a

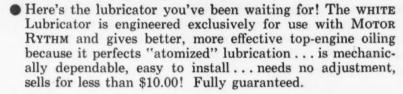
problem.

TOP Seller for TOP Profits because of its Low Price ...

TOPS for TOP-Engine Lubrication with New Atomizing Principle...



Engineered Exclusively for



- You can afford to stock and sell this lubricator because you stock only one basic model which fits all cars (through the use of very low cost adapters). No large inventory to carry!
- INTRODUCTORY CONSUMER SPECIAL

Free of Extra Charge, 1 Qt. MOTOR RYTHM.....Value

TOTAL VALUE

SPECIAL RETAIL PRICE



for both*

"(Cost of installation kit (\$1.20) where needed, except for some special adapter plates. Labor not included)

The New WHITE atomizing principle means that all of the MOTOR RYTHM lubricant enters the engine as a vapor. Automatically, the WHITE lubricator gives complete lubricant dispersion to all upperengine parts. The Motor Rythm cleans, oils and cools, checks wear

and corrosion, helps maintain full compression, pickup and power.

Ask your WHIZ jobber for complete details, and order your stock now. If he cannot supply you, ask him to stock the WHITE lubricator and WHIZ MOTOR RYTHM for you.



1952

R. M. HOLLINGSHEAD CORPORATION

LEADER IN MAINTENANCE CHEMICALS Camden 2, N. J.

Warehouses: Chicago • Dallas • San Francisco

Canadian Offices: Toronto

Sell the safety which inferior brake lining

can't give . . . There's a whale of a performance difference between inferior brake lining and Raybestos PG Proving Ground Tested Sets. To use Raybestos Brake Linings is to complement your good shop work, satisfy your customers, and increase your profits. They last longer on today's vehicles, make safer stops in traffic.



INSIST ON THE RAYBESTOS BRAND ON EVERY PIECE OF BRAKE LINING. IT'S THERE FOR YOUR PROTECTION.

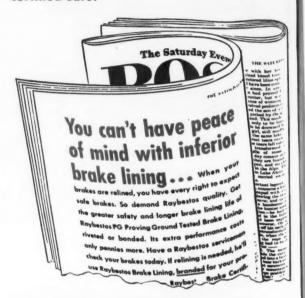
PG for riveting

Ray-BOND for bonding



PULL WHEELS AND USE THE RAYBESTOS BRAKE CERTIFICATE

These two things, plus the quality of Raybestos Brake Lining, will give you the keys to brake service volume. And month after month, powerful pre-selling Raybestos ads like the one below will support you by urging city and rural car owners to have their brakes certified safe.



YOUR CUSTOMERS AND PROSPECTS WILL READ THIS RAYBESTOS AD

Hard-hitting advertisements like this are appearing regularly in The Saturday Evening POST and in Farm Journal • Thousands of car owners right in your own neighborhood will become brake lining conscious . . . will want to buy Raybestos.

50 YEARS OF SERVICE...50 YEARS OF PROGRESS...1902-1952







RAYBESTOS DIVISION of Raybestos-Manhattan, Inc., Bridgeport, Conn.

RAYBESTOS-MANHATTAN, INC., Manufacturers of Brake Linings • Brake Blocks • Clutch Facings • Radiator Hose • Fan Belts • Industrial Rubber Products • Rubber Covered Equipment • Packings • Asbestos Textiles • Sintered Metal Products • Abrasive and Diamond Wheels • Bowling Balls



ake ith, the city





There's a big difference between a

cat...caterpillar

-and there is a powerful difference, too, between performance and "ETHYL" performance!



Yes, there's a powerful difference between the performance of an engine using just gasoline and one using "Ethyl" gasoline. When you set the timing to take full advantage of "Ethyl" gasoline's higher antiknock quality, your customer gets "Ethyl" performance-more power, quicker starting, more mileage. And you get happier, more satisfied customers.

ETHYL CORPORATION, New York 17, New York

Other products sold under the "Ethyl" trade-mark: salt cake...ethylene dichloride...sodium (metallic)...chlorine (liquid)...oil soluble dye...benzene hexachloride (technical)



Most popular 1952 models!

This year, three out of four cars on U.S. roads will be old models!

39% will be three to nine years old—their major repair age. No wonder motor experts say this is the year of repair!

To thousands of auto service dealers, hundreds of miles from factories and parts depots, this great demand for repair parts will pose a problem.

That's why, in sales meetings with

dealers, motor car companies advise: "For faster turnover, lower inventory, more good-will; order repair parts via . . . Air Express!"

Air Express speed cuts days from repair time, builds dollar business at a cost of pennies. Whatever your need, you can profit from regular use of Air Express. Here's why:

IT'S FASTEST — Air Express gets top priority of all commercial shipping services — gives the fastest, most complete door-to-door pickup and delivery service in all cities and principal towns at no extra cost.

IT'S DEPENDABLE — Air Express provides one-carrier responsibility all the way and gets a receipt upon delivery.

IT'S PROFITABLE—Air Express service costs less than you think, gives you many profit-making opportunities.

New parcel post regulations affect you? Call your local agent of Air Express Division, Railway Express Agency.



When a manufacturer says:



WHAT DOES IT MEAN TO YOU?



SOLD!

Your Best Rural Customers. Advertising in Country Gentleman sells the better-income, bigger-buying rural families in your own trading area. It is the best-read magazine in 2,300,000 rural homes throughout America.

SOLD!

Customers Other Magazines Miss. Nonfarm magazines fail to reach Country Gentleman readers ... 2 out of 3 women do not read any leading women's magazine—4 out of 5 men do not read any leading weekly magazine.

Rural America's Best Salesman!

PROOF THAT ADS IN COUNTRY GENTLEMAN SELL GOODS FOR YOU

- A nationwide survey shows that men and women heads of Country Gentleman homes—
- 1. READ THE ADVERTISING in Country Gentleman in 96.2% of homes
- 2. GET BUYING IDEAS from the advertising in 3 out of 4 homes

DEALERS COAST-TO-COAST SAY: "COUNTRY GENTLEMAN HELPS ME MOST TO SELL MY BEST RURAL CUSTOMERS."
MANUFACTURERS PLACE MORE ADVERTISING IN COUNTRY GENTLEMAN THAN IN ANY OTHER FARM MAGAZINE!

COUNTRY GENTLEMAN now includes COUNTRY LIVING, the first magazine-within-a-magazine devoted to better living for every member of the rural family.



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you?

1952

BIG3... in the cable field!

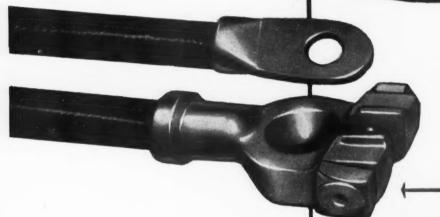
PACKARD IGNITION CABLE

Long considered the "standard of the automotive industry," Packard high-tension cable is original equipment on more cars, trucks, buses and tractors than any other cable. Packard FOUR-FORTY and Packard LAC-KARD ignition cable are designed to deliver balanced performance in every application.



PACKARD BATTERY CABLE

Packard battery cables are used as original equipment on more cars, trucks, buses and tractors than cables of any other make. Packard battery cables are full size, full weight ... are available with LEADALLOY terminals or leaded brass terminals. Both types are packaged in individual cartonsboth deliver top performance-both have acceptance, everywhere.



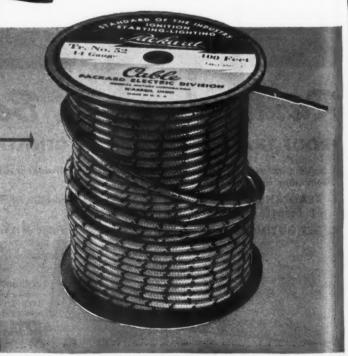
PACKARD LOW-TENSION CABLE

As with Packard's two other products, Packard lowtension cable is used as original equipment on more cars, trucks, buses and tractors than cable of any other make. Packard's "249 Compound" insulation, by every laboratory test and by the test of long, hard usage, has exceptional resistance to heat, oil, chemicals and abrasion.



Packard Electric Division, General Motors Corporation Warren, Ohio

FOREMOST BUILDER OF AUTOMOTIVE AND AVIATION WIRING



Build your reputation for brake work! Use Grey-Rock Balanced Braksets



Grey-Rock makes

Grey-Rock advantages

Reputation Booster



Your reputation for good brake work climbs higher every time you install Grey-Rock Linings . . . the linings regularly advertised for years. Car owners know the Grey-Rock name, and have greater confidence in shops that use Grey-Rock.

Satisfied Customers



Because each Grey-Rock set is a balanced combination of friction materials especially selected for some particular make and model of car, your customers get faster, smoother, safer stops . . . with longer wear and fewer adjustments. You're sure of these advantages when you use Grey-Rock; but you never know what you're getting when you accept unbranded lining!

Proof of a Better Brake Job



This tag is packed in every Grey-Rock set, ready for you to snap onto a dash button of your customer's car. It tells how your workmanship joins with Grey-Rock Balanced Braksets to deliver a better brake job. It's good advertising for your shop!

Consistently advertised in







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GREY-ROCK DIVISION of Raybestos-Manhattan, Inc., MANHEIM, PA.

RAYBESTOS-MANHATTAN, INC., Manufacturers of Brake Linings • Brake Blocks • Clutch Facings • Fan Belts • Radiator Hose • Packings • Mechanical Rubber Products • Rubber Covered Equipment • Asbestos Textiles • Sintered Metal Products • Abrasive and Diamond Wheels • Bowling Balls

The Best



is the

AMERICA'S

RACING

DEALER'S

BE A CHAMPION DEALER IT PAYS!

Spark Plug Champion

FAVORITE ... Because of its outstanding dependability, scores of surveys show Champion to be "America's Favorite" year after year.

CHAMPION'S FAVORITE ... Because of its outstanding performance, Champion has been the choice of the vast majority of racing champions and record holders year after year.

FAVORITE ... Because it gives him the most complete line, the best advertised line, and the line with the greatest turnover, volume and profits year after year.

CHAMPION SPARK PLUG COMPANY, TOLEDO 1, OHIO

G

1952

For More Enjoyable Motoring

9 out of 10 Cars Use One or More



Give Your Ustomers the Benefit of the Best



The Industry's Fastest-Growing Line—Original or approved equipment on Buick, Chevrolet, Cadillac and Olds.

with Patented CORALOX Insulator—Factory equipment on more new cars than any other make of spark plug. The Only Complete Line — More than 100,000,000 have been built—more than 40,000,000 are in daily use.

SPEEDOMETER CABLES . AIR CLEANERS . FLEXIBLE LINES . GAS STRAINERS

AC SPARK PLUG DIVISION



GENERAL MOTORS CORPORATION

MHD"

Cars Need It—And You've Got It!.

HEAVY (D) UTY

Mobiloil

Mobiloil more than meets the requirements for a heavy-duty motor oil as outlined by American Petroleum Institute and recognized by Society of Automotive Engineers ... plus famous Triple-Action for top performance:

HIGH "V. I."— (high viscosity index)—for minimum change in body over broad range of temperatures—vital for modern engines with closer-fitting parts, higher operating temperatures.

ANTI-ACID—special anti-acid agents to give high oxidation stability—greater protection against corrosion of engine parts.

HIGH DETERGENCY—plus dispersive properties—to help hold deposit-forming materials in suspension—keep engines clean...especially important for engines with hydraulic valve lifters.



Why Sell Anything Less

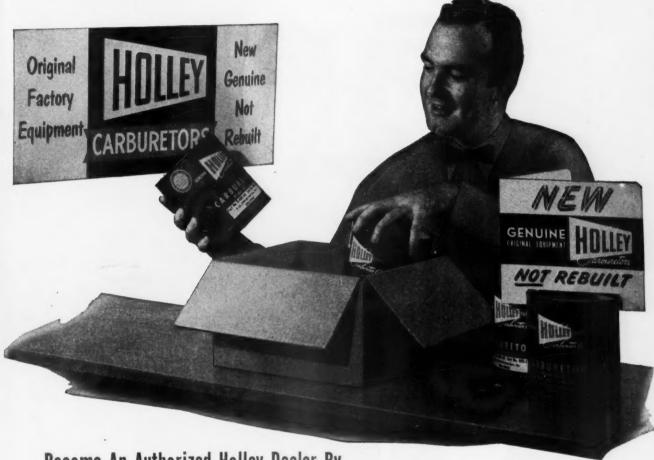
Mobiloil-World's Largest Seller-at the Sign of Friendly Service I



SOCONY-VACUUM OIL COMPANY, INC., and Affiliates: MAGNOLIA PETROLEUM COMPANY, GENERAL PETROLEUM CORPORATION

THE HOLLEY

Four-Carburetor Profit Plan



Become An Authorized Holley Dealer By Stocking Four Fast Moving Carburetors

All wrapped up in one package, the Holley four-carburetor profit plan establishes you as an authorized Holley dealer—entitles you to a straight 40% off on all Holley parts. Included in this big profit package, are four original equipment carburetors—two for 1934 through 1948 Fords and two for 1949 through 1951 Fords; an attractive, counter display card that fits over two carburetor cans; a three-color window or wall streamer that helps to make sales and profits automatic.

All authorized Holley service dealers have a direct factory-to-dealer contact that provides new service information within days after its publication.

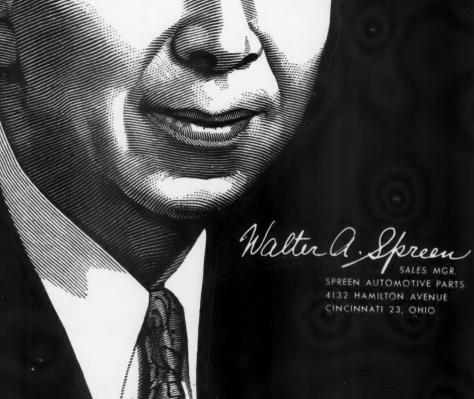
Contact your Holley distributor today.



5930 VANCOUVER AVE., DETROIT 4, MICH.

FOR MORE THAN HALF A CENTURY— ORIGINAL EQUIPMENT MANUFACTURERS FOR THE AUTOMOTIVE INDUSTRY

Chilton's MOTOR AGE, MAY, 1952



"Which battery line should we take on? That's a question that many a jobber has had to ask himself. Here's how we answered it. Who can offer the best? It was Auto-Lite Battery," says Walter A. Spreen.

"Only Auto-Lite Battery can deliver us and our dealers a huge original equipment replacement market, a national television and radio show, a top-read advertising campaign in national magazines, farm magazines and exclusive 'Operator 25' Service—all in one neatly tied package.

"And to top off this cake with sweet frosting, we're selling more of the premium-profit 'Sta-ful' Batteries than ever before."



AUTO-LITE BATTERIES





Before GUMOUT! How many dirty, clogged-up carburetors like this have you ignored...when a GUMOUT 20-minute "on-the-engine" carburetor cleaning job would do both you and your customers a favor?







Disconnect and plug fuel line.



Attach GUMOUTER tube to carburetor.



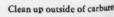
Suspend GUM-OUTER can above engine.

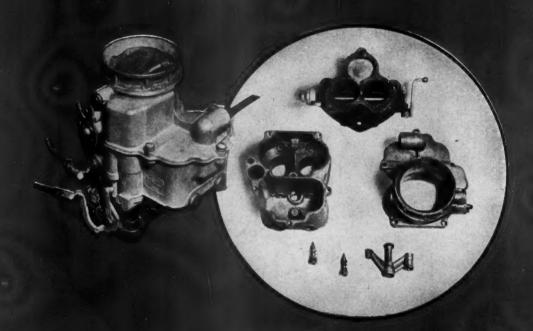


Run engine at all speeds.



Remove GUM OUTER. Reconnect fuel line.





After GUMOUT! Here's what a GUMOUT "on-the-engine" carburetor cleaning job does in less than 20 minutes! Clean, isn't it? Beats that slow, costly, old-fashioned method of cleaning carburetors, doesn't it? Makes you more money, too!



PENNSYLVANIA REFINING COMPANY **CLEVELAND 4, OHIO**

Butler, Penna. Edgewater, N. J. Refiners of Penn Drake Petroleum Products Since 1880

Send this coupon today

GUMOUT is sold through leading Automotive Jobbers everywhere. If your Jobber doesn't have it, send this coupon today. Complete satisfaction is guaranteed!

GUMOUT DIVISION, Pennsylvania Refining Company 2686 Lisbon Road, Cleveland 4, Ohio

Please send:

......Cases of GUMOUT (24 pints each) at \$21.60 per caseCases of 6 one-gallon cans of GUMOUT at \$33.60 per case

......Five-gallon pails of GUMOUT at \$5.20 per gal.

......GUMOUTER KITS at \$2.95 eachAdditional information

City.....Zone....State....

Favorite Jobber.....

MA-4

Exide ULTRA START BATTERY

Leader of the famous Exide line

BUILT TO LAST LONGER



THREE LONG-LIFE FEATURES THAT HELP BOOST SALES

SILVIUM, the corrosion-resistant grid alloy, resists a battery's most destructive enemy—grid corrosion caused by overcharging.

G.O.X. new active material, so effective that it is possible to take full advantage of an acid solution of lower specific gravity.

PORMAX, practically indestructible plastic sepa-

rators, are extremely resistant to heat and acid... flexible and tough. Low internal resistance increases cold-weather starting ability.

PLUS Vitrex Retainers—Element Protector—Plastic Connector Shields—Plastic Vent Caps—Improved Sealing Compound—Shock-resistant Container.

WHEN IT'S AN Exide YOU START

Suriton to

"Exide" is more than a battery line. It's a symbol of dependability. The Exide sign on your place of business will give your customers confidence that they can depend upon all your products and services. And "Exide" means sales. To help you build a sound, growing battery business Exide offers all these PLUS values:

A COMPLETE LINE. Wide price range to fit the needs of all motorists... ULTRA START, HYCAP, SURE-START, STARTEX.

135,179,740 Exide National Advertising messages in 1952. This program will do a real selling job right in your own neighborhood.

EXIDE SURE-START PROGRAM with time-saving tools and equipment.

SELLING AIDS that assure quick, easy, profitable battery sales.

ATTENTION-WINNING DISPLAY MATERIAL.

THE ELECTRIC STORAGE BATTERY COMPANY, Philadelphia 2

Exide Batteries of Canada, Limited, Toronto

ACT TODAY-SWITCH TO Exide



Bad Brake Fluid causes accidents!

any one of these faults in inferior brake fluid can cause a serious accident

VAPOR LOCK: Fluid with low boiling point can't withstand heat generated by braking on steep hills or at high speed. Fluid boils and vaporizes—result, no brakes.

FREEZING POINT: Inferior brake fluid will freeze, thicken or become sluggish. It may separate, solidify or crystallize at sub-zero temperatures.

INABILITY TO ABSORB MOISTURE: Free water in inferior fluid will boil off, leaving air pockets which will compress when brakes are applied, or water may freeze in cold weather—result, brakes inoperative.

CAUSES RUBBER PARTS TO SWELL: Brake fluid with improper ingredients causes rubber cups, boots and hose to swell, immobilizing moving parts—result, brakes inoperative.

IMPROPER LUBRICATION: Fluid not containing proper lubricating qualities fails to protect vital working parts—result, excessive wear and eventual brake failure.

NO RUST INHIBITOR: Fluids lacking rust inhibitor allow metal parts to rust and corrode. Sticking or seizing results and brakes fail.

GUMMY RESIDUE: Fluid that deposits gummy residue on moving parts when exposed to air or high heat retards the movements of these parts—result, brake failure.

NON-MISCIBLE: Improper brake fluid, when added to the fluid in the system, may not mix properly—result, eventual brake failure.

Magner

LOCKHEED HYDRAULIC BRAKE PARTS and FLUID . NoROL . COMEN BRAKE LINING . AIR BRAKES . TACHOGRAPHS . ELECTRIC

YOU PROTECT YOUR CUSTOMERS-

with America's No. 1 Brake Fluid



WAGNER LOCKHEED

Here's why Wagner Fluid is better!

CHEMICALLY BALANCED — with just the right amount of costly vegetable type lubricant to assure proper lubrication to all parts of the brake system.

CHEMICALLY BALANCED – with exactly enough moisture absorber so that no separation can occur.

CHEMICALLY BALANCED — with the correct proportion of all ingredients required to assure an all-season fluid.

CHEMICALLY BALANCED — to maintain stability even after long use.



CHEMICALLY BALANCED — so that it maintains high operating temperature characteristics, yet functions in sub-zero temperatures.

- · Does not harm rubber cups or hose.
- Forms no gummy residue.
- · Does not evaporate excessively.
- Used by vehicle manufacturers.

Here's how Wagner helps you!

Colorful counter cards and large wall posters for point-of-sale use are yours for the asking. Get them from your Wagner Jobber. Display them and tie in with the Wagner advertising appearing regularly in the Saturday Evening Post and Collier's.

Wagner Electric Corporation

6498 Plymouth Ave., St. Louis 14, Mo. (Branches in principal cities in U. S. and in Canada)



...the best known name in brake service

MOTORS - THANSFORMERS - INDUSTRIAL CRANE BRIDGE BRAKES



Have you ever seen a coil with high blood pressure? Low-speed truck engines bring on that excess heat and strain, and p-f-f-t, the coil is out like a light.

Here's Blue Streak's solution: a super air-cooled coil that dissipates heat as fast as it's generated. The coil case is made of aluminum, which quickly conducts the heat from the coil winding to the outer surface. The fins are extra large to provide the greatest possible cooling surface, and they are arranged horizontally, so that the air currents from the fan swirl around them.

Pair up this coil with the heavy duty Blue Streak condenser that's made for it, and you have a team that's good for your reputation. Standard Motor Products, Inc., Long Island City 1, N. Y.

Better your Business... Buy Blue Streak



"Blue Streak Ignition Parts outlast the competition, and give better performance to boot!" So says Dan Hanlon, (shown above, right) of Waterbury, Conn. "It's sure worth the few cents extra to make certain my customers get that Blue Streak performance."



COILS . POINTS . CONDENSERS . VOLTAGE REGULATORS . HEADLIGHT RELAYS . DISTRIBUTOR HEADS & ROTORS . DIMMER SWITCHES . WIRE & CABLE





For Full Flow where it's needed

SEALED POWER MD-50 STEEL OIL RING WITH THE FULL-FLOW SPRING

Surplus slots for full flow of oil! Can't block any piston oil hole! Long curves for greater bearing area! Double the drainage with half the drag! Thousands of extra miles between ring jobs! Best for oil control even in

BADLY TAPERED and OUT-OF-ROUND BORES

A PREMIUM PRODUCT FOR A PREMIUM MARKE the

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Sealed Power KromeX Full-Flow RingS are the finest ring sets made. Top of pression ring is of chrome-alloy iron, v solid chrome face, lapped at the fact to a light-tight finish for quick seat Chrome on rail faces of the MD-50 i means twice the mileage. Sell Sed Power KromeX Ring Sets for all late-m cars and trucks!

Sealed Power Piston Rings

NEW Scene

News Digest of the Month in Picture and Fact May 1952

Restrictions Lifted On Tetraethyl Lead

Judgment of automobile manufacturers who increased compression ratios in their 1952 engines in the face of what looked like a possible reduction in octane numbers of motor fuels has been vindicated. Effective the 1st of April, the Government lifted all restrictions on the use of tetraethyl fluid in automotive gasoline. Use of

Chilton's Motor Age Flat Rate and Service Manual, 23rd Edition (1952) has received the approval of the Office of Price Stabilization.

tetraethyl lead had been under PAD restrictions since February of last year. Unrestricted use of the anti-knock fluid now is possible because of the much improved supply and a definite understanding between the military and the Government on the size of the national reserve stock.



In the specially built race car pictured above, Piero Taruffi recently broke three world records. The Italian auto ace established new marks for the 50, 100 and 200 kilometers. The times were respectively 13 min. 41 sec., 26 min. 41 1/5 sec., and 54 min. 35 1/5 sec.

Ford's Future Is In Their Hands



Photographed for the first time are the 17 men who run today's Ford Motor Company, \$1,500,-000,000 empire begun a half century ago with \$28,000 and a dream of personal transportation within reach of all. The board is one of the youngest groups of executives in the country, averaging about 50 years, with the youngest William C. Ford, only 27. Left to right in the first row are: Benson Ford, vice president and general manager of Lincoln-Mercury, 32: Henry Ford, II, 34, president: Ernest R. Breech, executive vice president, 55; and William Clay Ford, 27, director. Second row, left to right: John R. Davis, 56, vice president and director; William T. Gossett, 48, vice president and general counsel; John S. Bugas, 44, director of industrial relations; D. S. Harder, 60, vice president and director of manufacturing and production activities; Harold T. Youngren, 60, vice president engineering; and Lewis D. Crusoe, 57, vice president and general manager of the Ford Division. Third row, left to right: Theodore O. Yntema, 52, consulting economist; Irving A. Duffy, 48, director of purchasing and vice president; Walker A. Williams, 51, vice president in charge of sales; John Dystra, 54, vice president; Logan O. Miller, vice president of Basic Products Group; Ray H. Sullivan, 58, vice president, Engine & Pressed Steel Group, and Arthur J. Wieland, 56, vice president and general manager of International Division.



Nearly 100 automobile dealers attended the Office of Price Stabilization hearing on an industry proposal urging OPS to permit dealers to raise the present ceiling prices for preparing and conditioning new cars for customer delivery. The group sat patiently throughout the day-long session as arguments for and against the CPR-83 were presented to a three member panel of OPS officials.

L-M Service Managers Meet in Detroit

Service managers from Lincoln-Mercury dealerships in various parts of the company are meeting in Detroit to discuss ideas and recommendations for better relations between the factory and the dealer service organization. Two service managers from each of the five Lincoln-Mercury sales regions



Art Krutina hoisted his gas tank into a tree just in case the Minnesota River overflowed. As a result of his foresight, his Twin City Marine Company is now able to deliver gas from a row boat. The river hit a new high.

have been elected to attend the Detroit meeting. Production, engineering, and sales department leaders will participate in discussions with these representatives.

H-D Presents New American Motorcycle

A completely new American motorcycle designed by William J. Harley, of Harley-Davidson Motor Company, has been placed on the market. The Model-K is powered by a 45 cu in. side valve motor which developes 30 hp. Cylinder heads are deep-finned and decked to dampen noise and assist cooling. The engine is built with cases cast as an integral part of the fourspeed transmission housing. Ground clearance is approximately 6-inches.

Packard Undecided About Sports Car

Despite all of the predictions that Packard is committed to produce the Pan-American sports car it exhibited at the International Sports Show in New York early in April, the company still has not made a definite decision. The car has been brought back to Detroit and considerable study on engineering detail still must be completed before the car could go into production. Also Packard is well aware that enthusiastic acclaim at an automobile show may be something quite different from the actual translation into sales when the salesman offers the order blank and fountain pen to the prospective customer. Volume certainly would be very low and the price high.

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Hanford A. Crockard has been named general convention chairman for the 1953 NADA convention to be held in San Francisco, February 14-18. Mr. Crockard, Chevrolet dealer in Berkeley and Roseville, California, has been NADA director for Northern California for the past four years. He has also served as NADA Regional Vice President, Chairman of the Membership Committee and is a past president of the Northern California Motor Car Dealers Assn.

Two Months' Retail New Car Sales Valued at \$1,200,000,000*

	February 1952		January 1952		Two Months	
Price Group	Units†	Dollar Volume	Units†	Dollar Volume	Units†	Dotlar Volume
Under \$2,000 \$2,001 to \$2,500 \$2,501 to \$3,500 Over \$3,500	155,244 91,338 33,605 13,416	\$276,284,951 203,706,815 90,607,405 49,272,983	163,710 113,353 17,527 4,793	\$280,548,642 250,155,933 52,327,507 17,639,086	318,954 204,691 51,132 18,209	\$ 556,833,583 453,862,748 142,934,912 66,912,089
Total	293,603	\$619,872,154	299,383	\$600,671,168	592,986	\$1,220,543,322

*—Calculated on basis of new car registrations, as reported by R. L. Polk & Co., in conjunction with advertised delivered price at factory of four door sedan or equivalent model. Does not include transportation charges or extra equipment.

†—New registrations of American made cars only. Does not include imported foreign cars.

Dealers in Midwest Hit Hard by Reg W

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1952

by J. L. Gardner

There isn't anything wrong with new car sales that further relaxation of Regulation W couldn't cure, according to a check-up among representative midwest dealers.

Recent price increases, dealers claim, have wiped out what benefits were obtained earlier through longer payments, which went to 18 months some time ago. Most dealers would like to see 21 months, while some less conservative would favor 24-month contracts, which were in effect two years ago — before the Korean war's outbreak in June, 1950.

Sentiment among the majority of dealers of lower priced cars—Chevrolet, Ford and Plymouth—is that the average man is under a handicap when it comes to buying a new car under present Regulation W terms. The expected and long-anticipated spring upturn in business in these models, for the most part, has not materialized. with very few exceptions.

Dealers handling the larger cars were not found to be suffering from the same sales doldrums attributable to the regulation. Buyers of big-ticket cars are still in an "open to buy—and for cash" position, say several of the dealers of deluxe cars.

The spring slump which has developed in place of the spring upturn is not being helped too much, some dealers say, by the Sunday closing, and a few dealers are still trying to buck the Sunday closing schedule, though most are going along with the six-day week.

The American Finance Conference here has come up with some figures to show people that cars aren't as expensive as 1940.

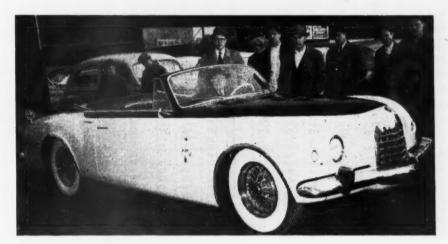
The American Finance Conference notes that in 1940 it took the average factory workers about 31 weeks to earn the price of a new car. Today it takes only 28 weeks.

(Continued on page 138)



Willys Aero Ace . . .

Willys-Overland Motors has introduced a second model of the new Aero Willys passenger car line, called the "Aero Ace," a custom model to complement the super-deluxe "Aero Wing." It features wrap-around rear window, 70 inches in width. Body design and sloped hood and fender fins, enable the driver to see all four fenders from normal position.



Chrysler C-200 . . .

Newest American experimental passenger car, Chrysler Corporation's C-200 convertible, was conceived and designed by Chrysler engineers in Detroit as "a further experiment to explore the blending of sports car styling with practical automobile design and engineering features." European influence is reflected in the long hood of the C-200 and its large, fully-exposed wire wheels.



Rambler Country Club . . .

The new outside spare wheel and tire carrier now is available on the Nash Rambler Country Club hard top convertible. The tire cover is available in solid colors or matching two-tone combinations to harmonize with the body.

1952 New Passenger Car Registrations by Makes by States*

STATE AND MONTH	Buick		Chev-	Chrys- ler	Cros- ley	De Soto	Dodge	Ford	Henry J†	Hud- son	Kai- ser	Lin- coin	Mer- cury	Nash	Olds- mobile	Pack- ard		Pon- tiac	Stude- baker	Willys	All Others	Total
bama	172 425	38 74	563 1532	52 143	2 3	38 84	117 288	440 818	23	41 96	26 50	14 19	107	59 153	105 268	26 62	239	120 370	128 350	25 63	12	2,33
zona Feb. 2 Mos.	65 186	14	118	20 56	1 3	12 33	43 100	102 280	24 34	25 46	15	4 5	47 96	18	29 88	10 29	75 196	53 184	58 130	11 18	13 28	75 1,89
ansasFeb. 2 Mos.	167 253	30 52	524 812	51 82	3	65 79	142 210	333 500	26 39	21 37	22 49	9	84 138	92	114 164	20 40	284 493	162 248	140 214	22 34	5 9	2,31
iforniaFeb. 2 Mos.	1759 3451	853 1096 1	4852 10326	922 1895	8 22	643 1226	1102 2420	3687 6352	96 179	522 1106	162 348	120 195	1422 2305	748 1567	1430 2535	364 722	2455 5854	1263 2926	1193 2735	191 434	652 1261	24,44
orado Feb. 2 Mos.	281 539	62 86	564 1026	101 198	8	51 98	134 274	448 743	9	92 144	18 29	17 24	118	105 195	183 287	37 75	295 642	189 319	134 261	38 50	14 24	2,89 5,24
necticut {Feb. 2 Mos.	292 595	103 168	739 1692	124 270	5	88 177		530 1137	35 83	106 196	54 118	28 49	155 354	132 281	255 528	82 167	388 957	238 505	256 471	42 64	56 108	3,96
aware Feb. 2 Mos.	131	16 37	163 368	25 48	2	14 26	57 114	116 275	20	21 37	13	1 3	28 68	26 57	50 107	21	72 194	41 112	75 159	5	11	1,81
of Col Feb. 2 Mos.	82 168	38 66	338 627	50 100	2 2	29 48	123 231	133 281	15 31	18 44	12	5 16	37	35 71	75 168	28 52	409 725	85 248	72 119	9 14	10	1,59
ida Feb. 2 Mos.	463 899		1230 2490	202 406	27 60	91 205		814 1695	93 194	94 160	51 118	26 44	241 544	163 356	272 566	106 211	721 1517	375 781	317 592	96 136 38 91	134 280	6,02 12,28 5,37
gia	505 1128	199	1312 2972	108 317	10	78 191		902 2010	58 181	50 173	32 104	16 65	198 660 72	100 299	301 623	62 160	532 1716	336 996	292 728	91	17 44 7	13,4
Feb.	126 218	19	269 517	22 46		32 50	111	178 362	15	77	33	11	120	100	143	25 52	139 261	69 151	103 189	14 29 88	10	1,3
ois	1988 3693	428 883	4568 8509	739 1317	19		2683	2531 5500	90 154	604 1025	175 325	70 150	848 1745	1074 1750	1176 2182	322 621	3455 5739	1423 2875	1141 1878	152	328 388	23,1 42,6
na	534 1128	128 225	1561 3384	219 464	3	153 338		925 1890	59 109	149 326	74 163	20 38	229 487	276 570	378 786	175	2016	435 1014	678 1306	40 79	10 18	7,1 15,2
Feb. 2 Mos.	-403 787	102 174	1278 2739	165 324	1	90 204		1679	31	50 125	101	18 27	199 443	173 331	302 586	118	1413	261 871	259 600	33 50	3	5,2
Feb.	265 515	90	1471	75 182	3	141	175 372	349 921	32 68	93 176	108	13 19	115 260	146 312	156 353	97	394 899	168 408	191 383	15 26	8	3,0 6,7
ucky Feb. 2 Mes.	288 523	68 91	1745	100 206	6	115	259 499	988	24 51	102	22 41	11 15	123 204	186 313	233 404	57 101	369 983	192 452	202 474	74	12	7,3
lana Feb.	257 524	103	879 1846	115 236	7	156	493	585 1188	31 76	37 71	37 86	30 38	116 308	233	204 416	133	460 978	244 560	234 502	18	10	8,
Feb. 2 Mos.	71 156	18	255 488	25 55	2	48	52 123	131 319	21 37	33	16 31	15	94	32 65	72 146	21	98 244	93 183	37 76	19	3 7	2,5
land Feb.	303 621	133	1285 2546	145 321	2	251	293 563	705 1353	153	160 287	51 88	18 35	235 468	185 336	263 507	141	1469	252 552	228 501	33 59	15 34	10,
achusetts . Feb. 2 Mos.	995	153 250	1553 3091	242 452	23	235 406	790	1110 1832	101	110 219	99	36 53	281 535	263 537	533 1023	102	893 1887	488 983	395 782	48 86	115	7, 14,
igan Feb. 2 Mos.	1844 3542	725 981	5441 10808	496 1007	10	355 680	2109	3702 5666	221	411 717	175 366	146	881 1607	657 1252	1266 2362	264 457	2040 4752	1386 3262	729 1454	127	18	21,
nesota Feb. 2 Mos.	1285	133	2045 4020	225 473	1 2 4	377	337 687	1034	31 55	105	100	33	281 588	179 353	929	237	1887	1031	453 909	43 61	10	7, 15,
issippi (Feb. 2 Mos.	181 436	49 78	520 1261	145	5	35 80	107 233	423 710	26 62	15 42	14	16	186	135	121 256	43 79	231 637	116 317	304	15 34	7	5,
ouri(Feb.	543 1154	119 281	1756 3701	211 432	3 6	181 369	369 780	1126 2300	26 67	110 207	57 98	23 49	256 547	309 668	334 685	104 223	944 2159	385 892	324 650	30 58	18	7, 15,
tana Feb. 2 Mos.	105 179	24 36	286 483	37 73	1	20 40	78 128	154 289	15	59	11	10	111	41	140	19 31	147 245	73 132	121 142	16 28	1	1,
raska Feb. 2 Mes.	245 552	103.	1349	105	4	99	145 293	470 943	11 24	45 79	22 54	21	108 253	70 184	122 308	35 82	294 778	192 446	142 307	20 40	2	2, 6,
Ada Feb. 2 Mos.	53 110	27	154	19	1	13	19 39	37 76	1	13	2	2	26 39	4	13	11 19	41 85	20 43	26 43	5	8 8	
Hampshire. Feb.	118 204	33	305 550	34 61	3	41	136 700	141 280	10 24	37 61	35 47	16	47 85	101	115	37	140 251	83 213	139	28 41	32	2,
Jersey Feb. 2 Mes.	901 1876	249 451	2354 4676	392 803	15	272 583 22	702 1350	1312 2849	73 182	254 526	93 215	39 67	480 1061	312 639	559 1274	453	1120 2547	781 1705	1206	147	95 185	10,
Mexico Feb. 2 Mos. York Feb.	122 229	21 34	408	58	4	36	76 115	146 274	7	28 35	7	12	49 84	31 55	99	16	228	118	95 173	22	6	1,
2 Mos.	1423 3111	457 909	2961 6345	626 1441	26 58	465 1091	1132 2382	1819 4344-	196	666	669	247	1434	478 975	932 2085	368	1853 4059	1275 3253	790 1407	471	226 592	16,
2 Mos.	1016 120	100	1218 2705	112 259	8	78 201	255 601	1700 214	70 150	153	101	16 31	193 476	238 238	252 595	146	486 1340	266 736	826 826		17 48	11
(2 Mes.	120 249 1491	47	370 663	125 734	4	36 70	95 166	214 419 2214	7	17 48	13	7 70	114	28 58	142	12 49	201 423	175 1020	145	. 20	32	18
2 Mes.	1491 2982	713 75	4390 8971	734 1424	18 46	922 100	1324 2547	2214 4411	129 283 22	382 742	192 385	78 106	744 1482	623 1208	1160 2241	305 585	2114 5096	1020 2379	1888	235	68 68	38
ahoma Feb. 2 Mos. gon Feb.	363 505 263	75 96 36	1242 1740 666	110 180 88	7	108 156 84	232 390 124	863 1382 380	40 12	110 72	30	17	139 216	109 183	274 380 216	43 75 71	486 929 292	246 420 177	333	47	12 17	7 3
2 Mos.	458 1852	73	1345 5456	169	3	150 594	257 1570	899 2430	20 180	123	30 62 229 422	15	134 223 850	127 227 742	357 1189	136 355	635 3117	376 1380	331	76	27 73 181	6, 23,
de Island Feb.	3442 95	615 50	10163	1350 45	2 3 14 23 1	1101	2602 84	5006 213	336 15	733	422	15 73 129 9	1632	1304	2192		6192 168	2694	2185	312	211	43
th Carolina Feb.	200 234	79 40	649 629	84 55	3	71 51	174 180	430 446	26 29	461 733 20 45 54	25 17	18	129 83	109	181 149	47 35	402 238	171 158	150	17	18	3,
th Dakota . Feb.	469 119	91	1393	140		123 35	352 65	857 210	55	106	32 13	10 11 7	196 51	153	302 86	69	633 162	378 66	316	3 29	34	5
2 Mos. Feb.	262 448	48 91	737 1211	101 134	5	76 109	157 303	429 776	19	39 109	31 43	11 21	148	34 71 152	206	52	417 603	187 326	180	17	1	3 5
2 Mos.	810 1721	150	2444 4779	249 590	12	230 309	612 1107	1310 2523	102	167 263	70	28 62	356 914	285 576	464	146	1390 2206	645	534	4 64	52	10
h	3565 105	350 789 25	9339 275		44	737 21	2171 98	6196 202	344 10	498 49	292 21	147	2065	1025	2573	546	4426 134	2740 94	2091	1 184	53	41
mont 2 Mos.	207 29	40	508 86	74 12	4	46 11	157 27	427	14	74	36	8	122	69	139	36	248 45	205	14	1 18	9	2
ginia Feb.	70 498	17 97	259 1626	31	2	24 138	61 382	124 1003	11	14	14	2	48 271	36 176	55	17	136 896	425	5	1 24	9	1 7
2 Mos.	1086 313	207 72	3317 919	416	21	277 100	755 173	2200 608	196	317	190	25 45 11	562 213	374 161	729	232	1979 454	958	80	5 75	195	14
2 Mos.	519 183	114	1570 591			154	318 158	983 285	23	124 46	57	15	341 79	251 76	405	110	786 260	443	3 40	0 43	3 75	1 6
2 Mos. sconsinFeb.	390 664	65 119	1245 1533	156	12	52 86 145	325 446	627 889	49	95	36	11 25	170	152 443	259	108	667	382	2 29	6 56	6 5 5 11	1
yoming Feb.	1329	231	3133 173	462	1	323	881	2046 136	51	229 26	146	45	554 40	766	906	177	1716	1019	9 88		3 18	14
\2 Mes. talFeb., 1952	204	37 6364	383 66009	61		6523	36 76 17236	267 40028	3	47	5	1214	83	9662	107	7 26	196	1768	2 9	1 31	1 1	29
	37237	8384	88810			9230	25333	72056	4726			2417		9973	23195	6134		2815				
tal Feb., 1951	31231	-		-	-	-		-	_			-			_							596

^{*} Data from R. L. Polk & Co. † Includes All-State.

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Mercury Wins Ton Mile Award: Henry J Top MPG

MAKE AND MODEL	Place	Miles per Gallon	Ton Miles per Gallon
CLASS A—\$1600 – 1950: Studebaker Champion Chevrolet Styleline Ford "8" Mainline Ford "V-8" Mainline Plymouth Cranbrook	2 1 	27 20 25 22 23	52 42 53 48 49
CLASS B—\$1951 – 2225: Studebaker Commander V-8 Kaiser DeLuxe	2	25 24	52 53
CLASS C—\$2226 – 2350: Mercury Monterey Studebaker Land Cruiser V-8	1*	25 25	59 53
CLASS D—\$2351 – 2500: Chrysler Windsor Hudson Wasp	2 .	19 20	45 47
CLASS E—\$2501 - 2900: De Soto Firedome "8"	1	21	54

A Mercury Monterey won the sweepstakes at the mid-April three-day 1952 Mobilgas Economy Run with a score of 25.40 actual miles per gallon and 59.71 ton miles per gallon. Bill Stroppe, who drove a Mercury to the 1950 sweepstakes title, piloted this year's winning car entered by auto dealer Bob Estes, Inglewood, California. Estes' Lincoln entry in 1951 took the sweepstakes that year.

MAKE AND MODEL	Place	Miles per Gallon	Ton Miles per Gallon
Packard "200"	2 3	19 20 20	44 49 48
CLASS F—\$2901 – 3450: Chrysler Saratoga Packard "300"	1 2	19 16	49 40
CLASS G—\$3451 – 3750: Lincoln Capri Chrysler Imperial	1 2	22 19	58 52
CLASS H—\$3751 - 4500: Packard "400" Chrysler Saratoga "8"	2	16 17	43 50
OTHER CLASSES: Chrysler Crown Imperial Henry J-Corsair "4" Henry J-Corsair "6" Plymouth Concord		16 30 26 23	53 51 44 47

Twenty-six 1952-model automobiles competed for trophies in their respective price classes. Seventeen were over-drive equipped. A Chevrolet was the only General Motors entry. Best mileage among the entries in the regular price classes was 27.82 MPG by a Studebaker Champion. In a special lightweight class, the Henry J. Corsair "4" with 30.85 MPG got best actual gas mileage.

Frazer Nash Wins Sebring Grand Prix of Endurance

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Revival of the European type of

road racing in the United States has met with increased interest as the result of the 12-hour grind at Sebring, Fla. It was staged under the name of Sebring Grand Prix of Endurance by its sponsors, Sebring Firemen, Inc.

So great is the interest that drivers in the 1952 event hailed with delight the announcement by James Lamb of the American Automobile Association Contest Board that a similar race—which may be extended to a 24-hour event—has been sanctioned for 1953. The date and site will be decided later.

The firemen have invited the racers to return next year, and their invitation may be accepted because of the facilities for sports car racing at the municipally owned Sebring Air Terminal.

The course is laid out over the runways and ramps of the airport and on the paved streets, which wind about the former Air Force base. Along the 5.2-mile lap are three .9-mile straights and 12 curves, some of them dangerous.

About 52 cars, principally of European makes, were entered this year, but mechanical defects bobbing up on the eve of the race brought the list of starters down to 32.



Winning drivers of the Frazer-Nash took top honors in the 12-hour Sebring (Florida) Grand Prix of Endurance recently are seated in the car. At the left is Larry Kulok, of New York and at the right Harry Grey of New York and London. J. S. Donaldson, at the extreme right, of New York, is owner of the car.



GOOD



CITIZENS

WINNERS

The four dealers above were recently honored by the National Committee for

Traffic Safety for work with the Inter-Industry Highway Safety Committee. From left to right they are: R. D. McKay, Jack Rose, B. B. Burns, and A. Edward Lalli. R. D. McKay accepted the citation award as a representative of the National Inter-Industry Highway Safety Committee and responded for all winners following a presentation ceremony.

The Committee was cited for promotion of a voluntary vehicle "Safety Check" program, and also commended for dealer contributions in loaning 5700 automobiles to high schools during the 1950-51 school term for use in practice driving instructions.

B. B. Burns was cited for his personal efforts in forming the Illinois Traffic Safety Council and his services as first president of that body.

Jack Rose accepted the citation for the Michigan Inter-Industry Highway Safety Committee for establishing and financing the nation's first full professorship in Driver Education at Michigan State College. He was recipient of an individual award during 1950.

The Massachusetts State Automobile Dealers Assn. was cited for its contributions of dual-control driver training cars to 128 high schools in the state, as well as for dealer participation in countless community safety projects. A. E. Lalli, chairman, received the award on behalf of the Association's Safety Committee.

Chilton's MOTOR AGE

An EDITORIAL

Unsafe Cars and Unsafe People



SOMEONE has said that the only uncrowded highway these days is the Straight and Narrow Path. That is serious when we consider the trouble we have with unsafe cars and unsafe people—both using macadam-covered cowpaths called highways.

Our business is to check unsafe cars to see that brakes, steering, tires, lights, exhaust systems and all other safety devices do the protective job they're designed to do. It's our most important job.

In safety service, the inflexible rule is that nothing, nothing whatsoever is left to chance.

It is unfortunate that safety service must be "sold" to unsafe people. Yet that's the task the automotive serviceman faces. Merchandise your facilities and your abilities. Remember, if you get one convert—you may have saved his neck. A car is as good as the service it gets.

Frank D. lighe

EDITOR

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Was This Cour Responsibility???

This and the following pages are dedicated to helping you keep your conscience clear. Don't make your customers into accident statistics

NE out of every three cars and trucks on the highways needs safety service. Now—May—Safety Check Month—is the time to make sure that your responsibility to your customers is fulfilled. Keep them out of the accident statistics. Keep them as customers. Keep them as friends.

Nearly two million casualties, the worst automobile accident toll in the nation's history, were reported in 1951 and last year's traffic deaths reached 37,100, an increase of 1600 over the 1950 mark. By far the most dangerous mistake in driving was excessive speed which killed 13,000 persons and injured 570,000 last year alone.

Over the speed and over other bad driver habits we have little control, but in the service industry there are many chances to save a life. A glance at the table at the bottom of this page shows that defective brakes alone caused 23,000 accidents; bad steering mechanisms, 4200; faulty headlights, 6500; obscured or not functioning tail lights, 2100; punctures and blow-outs, 6400; and other defects in equipment, 10,800. All of

these accidents could have been avoided if YOU had found the defect and convinced the customer that repairs were necessary. A total of 53,270 verified accidents could have been prevented.

The death rate has been rising steadily. 1950 -35,000 fatalities, 1951-37,500 fatalities, 1952 -it is estimated that traffic accident fatalities will reach an all-time high of 40,000. Although the picture is undeniably gloomy, it is a picture, too, of considerable progress. Only 2.5 per cent of vehicle accidents last year were directly traceable to mechanical defects which shows that most men in the service industry are doing a sincere and hearteningly effective job and although the total accident figure increases year by year, the national rate of accidents for 1951, 7.3 per one hundred million vehicle miles traveled, is approximately one-half the rate before World War II. It is our responsibility to see that none of the fatalities are due to mechanical failure.

Spread the slogan to all your customers, "Make Safe Driving a Habit . . . Check Your Car . . . Check Accidents."

Mechanical Causes of Motor Vehicle Accidents in 1951

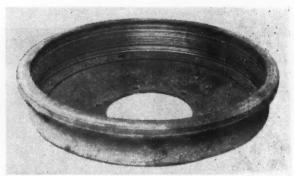
	Fatal	Non-Fatal		Fatal	Non-Fatal
Brakes defective	780	22,340	Tail light out or obscured	140	2,030
Steering mechanism defective	190	4,060	Other defects in equipment	640	10,150
1 or 2 headlights out	460	6,090	Puncture or blowout	320	6,090





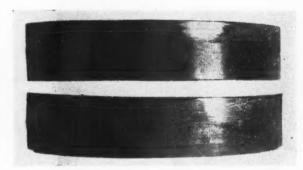
Making frequent checks

on the entire braking system is of major importance in servicing cars for safety



A badly scored drum can't provide the braking action necessary for safe driving.

What Makes Brakes Unsafe?



Brake lining, worn far beyond the safety point as shown above, is hazardous.

Worn and leaking wheel cylinders may "let the driver down" when he needs them the most,



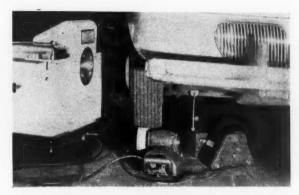
STATISTICS show that many highway accidents are caused by faulty brakes. To insure against this hazard brakes should be checked frequently. The major causes for failures are leaky wheel cylinders or grease on the lining which causes the car to swerve when brakes are applied. Worn brake lining and bands in need of adjustment causes weak brake action. A routine check-up on the following items can be made in about a half-hour.

Remove one front wheel and examine the lining for wear and the wheel cylinder for leaks. Apply pressure to the brake pedal and note how far it pushes. If the pedal goes to within 2 inches of the toe board, a minor brake adjustment should be made. If the pedal is spongy, air is probably in the system and the brakes should be bled. If the pedal goes down slowly, with light pressure being applied, check for leaky wheel cylinders or bad cups in the master cylinder.

Check the parking brake adjustment. The hand brake should lock the rear wheels when the handle is pulled out half way.

Brakes should be tested on a dry, clean, reasonably smooth and level roadway. Test the brakes at different car speeds with both light and heavy pedal pressure. Avoid skidding tires when making the above test.

Another major cause for brake failure is overheating the drums and linings. On long and steep descents, the braking power of the engine should always be used by engaging a lower gear.



Balance wheels accurately for safety.



In 1951, over 4,000

cars involved in highway accidents were found to have defects in the steering.

What Makes Steering Unsafe?

OOSE steering and misalignment of the front wheels are the two main factors contributing to unsafe steering. The car is momentarily out of control every time the driver has to take up slack in the linkage while turning the wheel. Check the linkage by looking for loose tie rod ends, a loose pitman arm, and loose idler arm mountings while someone rotates the steering wheel back and forth. The steering wheel should have no more than 21/4 inches of free play. If the play is excessive and the linkage underneath the car looks okay, the

probable trouble is in the steering box itself. Play in the steering, due to the steering box, can often be eliminated by taking up the adjustments in the steering gear box. Sometimes it is necessary to remove and replace shims within the box or otherwise make repairs on this unit.

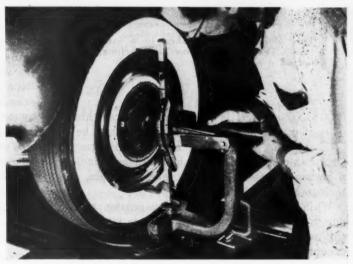
Another good way to check for loose linkage is to jack up one front wheel under the "A" frame and shake the wheel horizontally. This will also show up lost motion in the steering linkage. Then shake the wheel for vertical play.

(Continued on page 114)

Worn front end parts like these will cause defective steering.



Periodic checks of wheel alignment will assure car owners of safe steering.





When a wheel falls off

or a tire blows, the driver is in a spot.

Don't let it happen to a customer of yours



What Makes Wheels Unsafe?



This photograph was taken in a junk yard. That's where these tires belong, not on a car!

OSING a wheel is probably the worst thing that can happen to a motorist when he's traveling at anything over a snail's pace. This hazard may be caused by a broken spindle, a broken suspension arm, a broken king pin, or by loose wheel nuts.

While failure of one of the suspension parts due to fatigue or flaws in the metal is very difficult to prevent, a cracked or bent part can be caught in time if there is suspicion that such a condition may exist. For instance, when a car has been involved in an accident or has had a severe impact with a chuck hole or curb, it's a good precaution to examine for cracks and bent parts. There are several approved methods for locating cracks in metal parts, some of which are available to repair shops in kit form. Bent parts can be checked on a front end alignment machine. Often a car which seems to line up perfectly will steer poorly, an indication of bent suspension parts.

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Loose wheel nuts are another hazard. The wheel may have enough free play to wear on the studs, or bolts, eventually wearing them thin and weakening them to the point of breakage. When replacing a wheel, always check and double-check the lug nuts for tightness.

A bent wheel, while not usually an immediate hazard, will cause rapid tire wear and shimmy. Many cars are driven with bent wheels because the owners don't realize that the condition exists. Repairmen should make it their responsibility to examine for bent wheels whenever a car is jacked up or on a lift that will permit spinning the wheel.

Worn or defective tires are a safety hazard in long standing. When the tread pattern of a tire wears smooth, its skid-resistance is gone. While car owners generally are aware of this, often it is necessary for mechanics to emphasize its seriousness.

A cupped tire or a tire which is worn unevenly (Continued on page 117)



A fender ripped like the one shown above can be very dangerous due to protruding sharp edges.



Protruding sheet metal

damage and faulty door latches are among
the factors contributing to unsafe bodies

What Makes Bodies Unsafe?

HE body shop has a number of responsibilities with regard to safety. A jagged fender protruding from a car, for instance, is a definite hazard and should be repaired before it catches another car or a pedestrian in close quarters. Any sharp metal on the car, for that matter, is dangerous and is something that body shops should watch for and repair whenever possible.

Cloudy safety glass is dangerous for two reasons. First, it reduces visibility and second, it does not have the strength and shatter-proof characteristics that it should have. Cracked glass, for the same reasons, is dangerous. It is hard to see through, it increases the chances of injury in accidents and it sometimes has sharp edges on which passengers can be cut. Also, scratched glass presents a hazard because it reduces visibility—especially at night. The scratches reflect oncoming lights so that the driver is partially blinded.

To guide mechanics in their judgment of the acceptability of a door glass or windshield, one state has the following recommendations in its safety inspection code: Windshield—1 inch of cloudiness permitted at the top, bottom and left of the driver's side; 2 inches of cloudiness permitted at the top, bottom and right side of the passenger's side. Ventilators—cracks extending not more than 1 inch along the outer edge. Windows and door glass—cracks may not extend more than 5 inches, along the bottom; 2 inches on the sides and top (measured from the



This cracked and cloudy vent window is no longer shatterproof and does not offer full visibility.

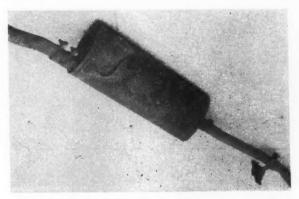
frame) and 2 inches permitted around the edges of the rear window. The ventilators are not governed insofar as clouding is concerned, but they can be rejected if sharp edges are apparent. Corner cracks in the windshield must not exceed over 4 inches on the driver's side. Stone damage extending over more than $1\frac{1}{2}$ inches in diameter would be rejected.

In the interests of safe driving in rain, be (Continued on page 130)



Exhaust gas is poison-

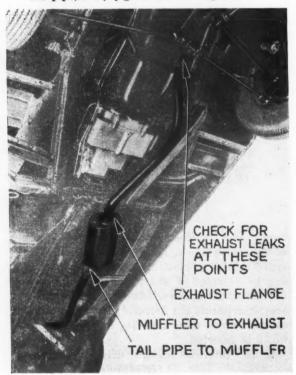
ous. Protect your customers by making regular checks for leaks in the system and replacing parts whenever necessary



Mufflers should be replaced before they rust as thin as this one, which was pierced by a stone.

What Makes Exhaust Systems Unsafe?

From the exhaust gaskets all the way back to the tail pipe, every joint must be a tight seal.



DEFECTIVE exhaust systems causing carbon monoxide gas to enter the inside of the car can overcome and possibly kill an innocent driver and cause serious accidents. Many people are unaware of exhaust leaks until it is too late.

A leak in the exhaust system, therefore can be equally dangerous to passengers riding in a closed car. All connections from the exhaust manifold right out to the tail pipe, should be checked carefully.

With the engine running and the car on the lift, listen for the "hiss" of exhaust leakage at the exhaust pipe to muffler connection and at the muffler to tail pipe connection. Then look for holes in the exhaust pipe, muffler and tail pipe. Tap the metal with a hammer to detect areas which are almost rusted through, also for bent and obstructed pipes. Leakage can be detected by running a little kerosene through the carburetor and watching for smoke at the joints.

After the car is down on the ground, raise the hood, check for leaks from the exhaust manifold gaskets. All points of leakage or weak points should be recommended for replacement.

(Continued on page 168)



Here's grim evidence of the need for checking wires often. A worn battery cable started this fire.



Over seventeen thou-

sand cars involved in accidents in 1950 and 1951 had faulty lights. Check 'em often for proper aim and candlepower.

What Makes Electrical Systems Unsafe?

RAILURES in the electrical system can cause serious accidents due to light failure, shorted wiring which causes fires, or because of improperly aimed headlights, which blind the approaching drivers.

Headlights should be checked at least twice yearly for proper operation on both beams, sufficient candlepower and proper focusing. Every light on the car should be tested, including the turn signals.

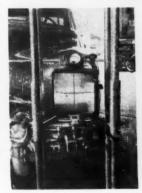
Be sure to check the stop light operation. If

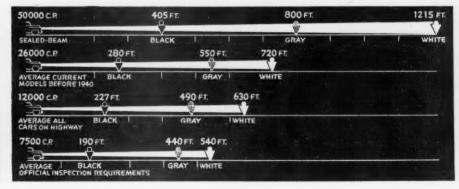
the stop light switch is inoperative, especially when the driver is unaware of it, there is always the danger of a "pile-up" when he applies his brakes. When the switch is stuck in the "on" position, the cars behind still won't know when the brakes are being applied. Also, when the stop lights burn continuously, the battery will run down in a hurry.

Battery cables should be examined carefully for frayed insulation and corroded or loose ter-(Continued on page 136)

Proper headlight adjustment is important. Blinding the other guy with improperly adjusted lights is risky

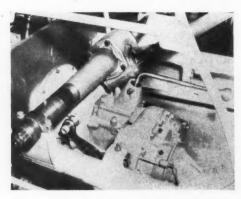
The chart below shows seeing distances for black, gray and white objects with properly aimed headlights of various brilliance.





Viewing

the '52 Indianapolis Cars

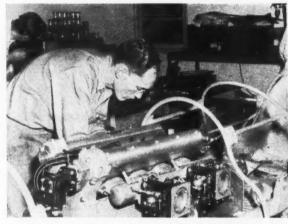


View of the Ansted transmission. Transfer case is explained in the article.

Among the many brand new cars scheduled to appear is the Ansted Special, shown here

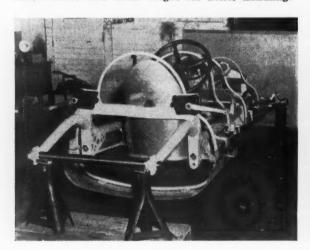
HE fastest Speedway race of all time—that's the prediction for the Thirty-Sixth Annual 500-mile racing classic to be held at Indianapolis on Memorial Day. Experts are predicting that qualifying laps will be turned on the brick oval up to 140 mph, and that Walt Faulkner's 1951 record lap of 138.122 mph will be surpassed this year. If weather and track conditions are ideal, last year's amazing record average of 126.244 mph can be increased about 2 mph.

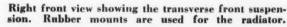
Something new has been added to this year's speed classic. Lucky ticket holders will see the stiffest competition in years. An Italian invasion of five V-12 Farraris, a new Cummins Diesel, (Continued on page 125)

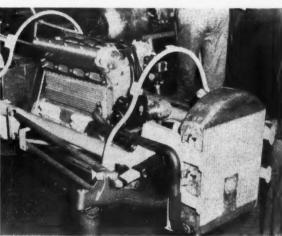


Roscoe Ford, the designer and builder, checks over the Ansted Meyer & Drake 270 cu. in. engine

Rear view showing the torsion bar rear suspension. The transfer case shifts weight for better handling.







His equipment is almost nil, his methods would make you shudder, but Cannon keeps 'em rolling

"Bacon Rind" Mechanic

by Arthur L. Center



A general view of the open-air shop. The Southern California climate permits this type of "ventilation."

Installing a "Mexican recap." An old tire (with the bead cut off) is placed inside a badly worn casing.





Eddie Cannon, the "bacon rind" mechanic, substitutes ingenuity for parts and equipment.

A SHORT time ago a late model car pulled up at Gomez's Motel, 200 miles south of San Diego in lower California and the driver inquired about a mechanic.

"Si, senor," answered the young native helper in broken English, as he stopped his sweeping long enough to give more explicit information. "Take dees road to de left and follow eet troo de pueblo to Eddie Cannon's air-condeshun garage near de highway. Eddie can feex anyteeng," he concluded with pride.

(Continued on page 108)

This is what Eddie Cannon calls a "Mexican spring." It's a palm wood log wired in place under the front springs.





Pop Springs a Surprise

by Charles M. Kenyon, Managing Editor

OMMY had just finished washing the front windows in Pop O'Neill's repair shop when the Kaiser sedan pulled up to the gas tanks. He hustled over to the driver's window. "Oh, good morning, Mrs. McCormick," he said. "Shall I fill her up?"

"Yes, Tommy, please," said the lady smiling back at him. "Wonderful weather, isn't it?"

"Sure is," said Tommy as he slipped the hose into the gas tank pipe. "It would be a wonderful day for a picnic."

"Why that's just where we're going," laughed Mrs. McCormick, pointing to the wicker basket on the seat beside her.

The three children in the back seat cranked down the window and started jabbering excitedly to Tommy.

"By the way," said Mrs. McCormick, "would you look at my emergency brake? It doesn't seem to be holding right lately."

"Sure thing," said Tommy, "probably just needs adjusting a bit." He got his tool box and

Larry wasn't trying to throw the bull — he really thought he knew where Tommy had gone astray until Pop showed them why the wheels locked on this car

proceeded to make the necessary adjustments. The cable did seem a bit slack.

Not long after the car had driven off, the phone rang with an angry clangor. "Pop's Repair Shop," said Larry Tait into the mouthpiece. Then he said no more while an excited buzz... buzz... came over the receiver.

At last he said, "All right, Mrs. McCormick, we'll come right out and pick it up. Sorry you had the trouble."

He hung up and walked back into the shop glorying. "Say, Tommy, what did you do to Mrs. McCormick's car this morning?"

"Why, I tightened the emergency brake for her. It wasn't holding at all."

"Boy, you sure did," said Larry. "When you

P.

Pop O'Neill

act like a mechanic, you make more trouble for the real mechanics around here than anyone I ever saw. Why don't you stick to pumping gas and washing windows?"

"Look," said Tommy, flushing slightly.
"The emergency brake cable was slack. I tightened it. The emergency brake worked fine. What's the trouble?"

"Mrs. McCormick

just phoned in from the Peterson place. She got half-way across that cow pasture on the way to their picnic spot down by the creek, when the rear wheels locked tight. She and the kids piled out and walked back to Peterson's and they called from there. The car's down in the middle of the cow pasture. They can't do anything with it. Now we've got to go out and slack off that brake."

"O.K.," said Tommy. "I'll go. I know right where that pasture is."

"Nothing doing," said Larry. "I know where it is, too. I'd just as soon get out of this hole and out on the road on a nice day like this. I'll see you about lunch time. That is, if I don't have any trouble."

He grinned as he wiped his greasy hands on a piece of equally greasy rag. He snapped his tool box shut and soon the wrecker went rolling away from the shop.

As Larry dropped the cow bars, he noticed that the cows were grazing at the far end of the field. The car, about three-quarters of the way across, was half way down a little hummock and the driving was rough, ruddy and rocky.

Larry backed the wrecker up to the rear of the Kaiser and proceeded to hoist the car. Far from being a lover of the life bucolic, Larry, if the truth be known, had a mortal fear of cows and the sight of the huge beasts at the far end of the pasture had given him butterflies in the stomach.

As he was about to hitch the chain, he happened to glance over his shoulder and there not twenty yards away was not a cow but the herd bull, angrily pawing the ground, tossing his head and rolling his eyes. Larry's fingers suddenly turned into thumbs and try as he might he couldn't hurry. The bull came closer and closer, step by step, and Larry's nerves grew tighter and tighter with each step. Finally, in a burst of speed born of nervous desperation, Larry completed the hitch and leaped for the safety of the cab. The bull placidly went back to eating grass. Larry, however, without stopping even to mop the sweat from his forehead, started the engine, slammed it into gear, and went careening back across the pasture.

Back at Pop's repair shop, he dropped the car on the little incline in front of the big window. He thought he had parked the wrecker. The car slid backward into the street. Larry scratched his head in puzzlement as he walked up to it.

(Continued on page 133)

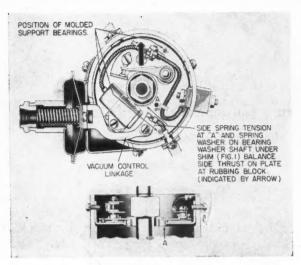


Fig. 1. Top and side cutaway view of the distributor and vacuum advance mechanism. Notice the oil hole, indicated at "A".

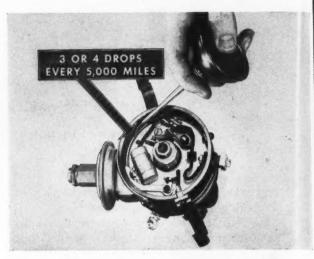


Fig. 2. The lubricating felt is oiled either along the edge of the movable plate, or through an oil hole in the movable plate—depending on the model.

Fig.

arm

The

Maintenance on the Delco I

When properly serviced, this popular unit will help provide the performance

SINCE the resumption of passenger car production following World War II, automobile engine designers have concentrated strongly on increasing fuel economy. This necessarily focuses attention on the vacuum spark advance mechanism in the ignition distributor, which is designed to increase fuel economy.

The demands of modern drivers for flashy car performance, simultaneously with reasonable fuel economy, further complicate the problem. New, higher compression engines, with their jackrabbit acceleration, demand a vacuum advance mechanism capable of reacting more quickly, more smoothly, and with less variation than earlier designs, since changes of speed are inclined to be frequent and rapid.

To accomplish these ends Delco-Remy ignition engineers have developed a center-bearing breaker plate, in general use for the last three years, for the ignition distributor. This plate is rotated through a linkage by the vacuum control. The plate operates with a high degree of precision and a minimum of friction. It is built to move freely, with no tilting or looseness during normal operation. It has support points rigid enough to eliminate any motion other than on a horizontal plane yet soft enough to prevent any tendency to "cut in" or "groove" the breaker plate assembly, which would limit its effectiveness.

This widely used breaker plate, shown in a cutaway view in illustration No. 1, is admirably suited for operation in high-compression engines of modern design. The upper, or movable, plate contains a bronze bearing, assembled at its center, which turns freely in a mating hole in the lower, or support plate. The movable plate is supported by three sliding plastic points

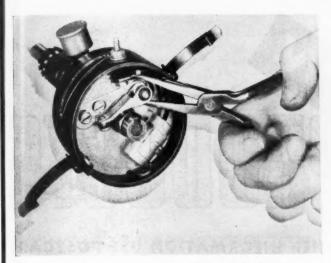


Fig. 3. Decrease spring tension on the breaker lever arm by pinching the spring with pliers, as shown. The lever must be removed from the breaker plate.



required of present-day automobiles

or bearings, which glide over the upper surface of the support plate as the movable plate is rotated. A built-in lubricating felt, located between the two plates, supplies constant lubrication for these bearings, and prevents dirt or dust particles from getting on the bearing surfaces.

The two plates, and the lubricating felt, are held together by a retainer washer which fits into a groove in the center bearing, where it extends beneath the support plate. Proper tension between the plates is maintained by a spring washer assembly on a post, extending from the lower side of the movable plate, down through a slot in the support plate. Any tendency toward tilting in operation is prevented by a strategic placement of the three anti-friction support bearings. These support bearings are placed so as to accurately offset the force exerted by the rubbing block as it strikes the cam. When handled as a

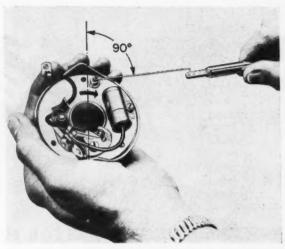
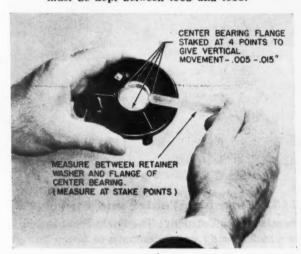


Fig. 4. A horizontal pull of between 11 and 18 ounces is required to start movement of the movable plate. Check this tension with a spring scale.

Fig. 5. Vertical movement between the two plates must be kept between .005 and .015.



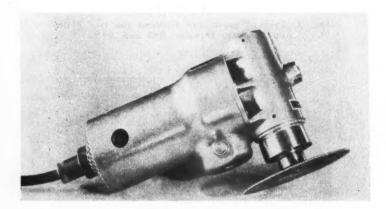
by Howard B. Birt
Technical Editor
Delco-Remy Div., General Motors

detached part, the movable breaker plate may be tilted, if pressure is applied at certain points between the support bearings. This assembly is designed deliberately to permit this tilting when the plate is outside the distributor. This insures a friction-free, "floating" movement in actual operation. However, the placement of the support bearings and the stabilizing action of the side spring prevent any such tilting motion when the breaker plate is in operation within the distributor. Sidewise motion and general looseness are prevented by the side spring. (See illustration No. 1.)

(Continued on page 81)



FOR FURTHER INFORMATION USE POSTCARD



▼ 245. Portable Welder and Power Unit

Generator Sales Company: The Porto-Weld is a heavy duty welding and brazing unit with built-in power for grinding, buffing, polishing, sanding, brushing or sawing. The model 2-A (illustrated) has a motor generator, and operates on 110 volts. It welds up to ½ in. steel and takes up to 5/32 in. rod. It is claimed to require no special wiring and is very useful for repair shop operation.

▲ 246. Disc Grinder

Balmar Corporation: The Diskette, a new high speed disc grinder, 9 in. long and weighing $4\frac{1}{2}$ lb., is designed for one hand operation. The tool operates at a speed of approximately 8000 rpm and is designed for easy operation at close quarters. The universal motor is housed in an aluminum casting and comes furnished with three composition discs as well as a screwdriver and a 3/16 in. pin wrench. The motor is air-cooled by a fan in the housing.

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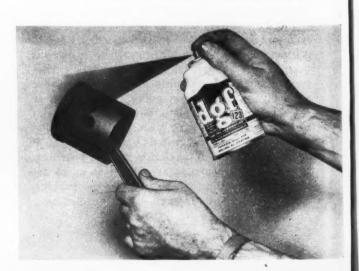
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▼ 247. Spray Lubricant

AP Parts Corp.: For pre-lubrication of frictional parts in engine assembly and parts replacements, this firm is packaging Miracle Power and dgf-123, colloidal synthetic graphite lubricants, and "Pres-A-Lubers." Dgf-123 sprayer was designed for final lubrication operation before placing a mechanical part into the engine (or before storage). The





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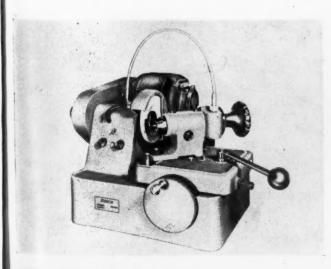
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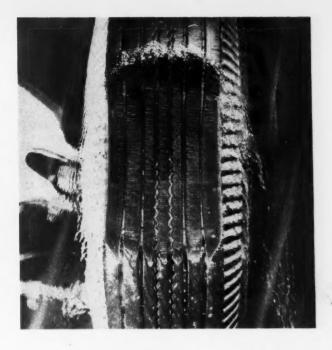
Miracle Power sprayer assures "wet" lubrication and can be used for domestic purposes as well as in the shop. It is used for lubricating all external moving parts of engines and machines.

▼ 248. Wet Valve Refacer

Snap-on Tools Corporation: A wet valve refacer in the low price field is now available from Snap-on Tools. Known as the VR-200, it is said to recondition valve with heads up to $3\frac{1}{2}$ in. in diameter as well as valve lifters and rocker arms. The collet-type work head for rotating the valve is driven off the main motor by means of a flexible shaft. The operator's right hand controls the work table movement while the left hand controls the feed. The work table is mounted on lathe-type ways that are said to require no adjustment grind valves either wet or dry. The VR-200 comes complete with a V-rest for butt grinding, a rocker arm grinding attachment for all sizes of rocker arms, coolant splash guard, diamond stone dresser and a bottle of water-soluble coolant.



Chilton's MOTOR AGE, MAY, 1952



▲ 249. Safety Tire

B. F. Goodrich Company: A new tubeless tire has been developed which is claimed to defy skidding on wet pavements. Stopping distances are said to be decreased by as much as 30 per cent and tire mileage increased up to 15 per cent. The tread design has more than 10,000 tiny blocks of rubber, each only 625 ten thousandths of an inch wide and approximately ½ in. deep. When the brakes are applied, the blocks act like fingers and grip the wet surface.

▼ 250. Plastic Rubber Paint

Adhesive Products Corp.: Auto-Flex, a compound developed for use in painting and repairing convertible automobile tops, forms a strong, cohesive coating over the fabric. Canvas roofs, which have already been worn and faded, can be rejuvenated with this paint. It is also used in adhering patches and other repairs which become necessary on the canvas top. Auto-Flex is available in black, tan or maroon.

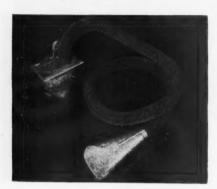


New Products Show Window

For further information use postcard on page 57

251. Exhaust Outlets

Engwald Corporation: Two new under-floor exhaust outlets systems have been announced for the accommodation of trucks, diesels and new automobiles with high compression engines. One of these



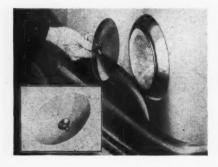
is the under-floor disappearing type which calls for 3-4-and 5-in. flexible tubing made of reinforced Neoprene. A twin unit is used with high compression engines and the 1952 Cadillac. Both units have heavy-duty aluminum castings with hinged doors.

252. Soldering Booklet

Federated Metals Division, American Smelting & Refining Co.: A 16-page booklet on the fundamentals of soldering entitled "How To Solder" is now available. It contains simple instructions and illustrations aimed at making soldering more successful and easier to do.

253. Snap-On Lens

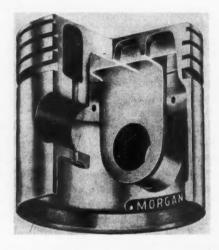
Safety Industries, Inc: A new lens device that permits using a car's headlights for foglights is now available. The product called "Headlite-Foglite" consists of an



amber-colored Polaray lens which snaps onto the car's regular headlights. The manufacturer states that one of the main advantages of this product is the fact that it provides a beam of unreflective light many times the value of ordinary foglights. When not in use, the pair of lenses can be stored in the glove compartment.

254. Racing Piston

Frank Morgan Company: A light weight piston for use in racing and sports car conversions of the Studebaker Champion engine is now available. Newly developed low friction rings are also supplied for use with this piston and are said to hold blow-by up to engine speeds past 5000 rpm. The



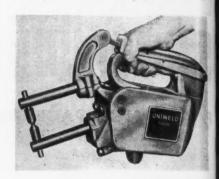
heat dam shields the top ring from much of the heat of the combustion and the stretch supported pin bosses are said to reduce pin flexure to a minimum. The firm announces that they also offer a complete line of conversion of the Champion engine and state that their conversion produces 120 brake hp. on the stock 85 hp. engine on regular gas.

255. Cleaner-Polish

Permatex Company, Inc: "Blue Blazes" is the new silicone cleaner polish added to the Permatex line. It is claimed to be resistant to water, and to provide fast cleaning and polishing.

256. Spot Welder

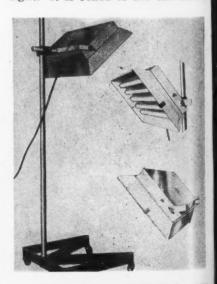
Welding Service & Supply Co.: A portable spot welder featuring an automatic switch and semi-automatic timing control has a new leverage design which exerts high forging pressure to make spot welds. The capacity is ½ in. combined thickness of either mild or stainless steel. The product op-



erates on a voltage range from 200 to 240 volts, 50 to 60 cycle. The automatic switch connected to the welder's handle turns on the welding current when the toggle linkage applies maxium pressure to the welding spot. The release of this pressure cuts the current off and while the pressure is still maintained, the spot sets.

257. Matching Lamp

The Arco Company: A lamp designed for use in the refinishing field to eliminate areas where color matching is to be done, has been announced by the Arco Company. This color shading and matching lamp is said to eliminate the need for jockeying the car outdoors or to a window for proper light. It is rolled to the car and a



Chilton's MOTOR AGE, MAY, 1952

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Equi 18 d adde shell wide more Draw 5½ i deep card plies with 1-in.

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Spar ries lamp new

Free Information

Fill in your name, address and other information on the free

postcard below. Circle the numbers of the new products which

interest you. Just tear out the card and drop it in the mail.

three-way locking control provides focusing of natural no-glare light with up and down, backward and forward movement. Adjustments can be made from the floor to height of over 5 ft. The lamp is built with a "V" type steel base, four casters protected by bumpers, heavy gage steel upright and radial arm.

258. Drawer Unit

Equipto Division of Aurora Equipment Co.: A new 18-in. deep 18 drawer steel cabinet has been added to the Aurora line of steel shelving. New features include wider, deeper drawers and larger, more-easily-read label holders. Drawer size of the new cabinet is $5\frac{1}{2}$ in. wide x $3\frac{1}{2}$ in. high x 17 in. deep, ample to hold 3 in. x 5 in. cards as well as many other supplies. The drawers come equipped with two dividers adjustable on 1-in. centers. Overall size of the cabinet is 18 in. deep x 14 in. high and 34 in. wide.

259. Turn Signals

Sparks-Withington Co.: A new series of Class A directional signal lamps include a two-face lamp of new design. The lamp is 2 in.

wide and operates on a single bulb, yet a special Stimsonite lens provides 12 sq. in. of lighting surface. The lens does away with the reflectors inside the lamp and the single bulb requires only one set of wires. A directional signal lamp is available in six separate combinations for various installations and each step comes complete with self-canceling switch.

260. Emergency Fuel Unit

The Viking Tool & Machine Corp.: A device which is installed in place of the air cleaner on the carburetor is known as the Gas-olator. It carries its own supply of fuel, and is designed to permit the driver or repairman to bring a car in when it has had fuel system failure. The Gas-o-lator, which is actually an independent fuel sys-

tem, injects the proper fuel air mixture right into the engine to overcome carburetor troubles until proper repairs can be made. The device can also be used when installing new caburetors and fuel pumps or starting new or rebuilt engines. It permits the running of new engines independent of a fuel system, so that no gasoline may be put into the gas tank. The manufacturer also states that the Gas-o-lator helps in troubleshooting since it immediately points out whether the trouble is in the fuel system or some other component.

261. Shop Poster

National Automotive Parts Assn.: NAPA jobbers are distributing to their customers a new three-color seasonal shop poster to help sell complete check-up and

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USE THIS POST CARD	2 2 2
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which I have circled belo	information on the New Pro	ducts, the code numbers of
245. Portable Welder	258. Drawer Unit	271. Spray Gun
246. Disc Grinder	259. Turn Signals	272. Can Cutter
247. Spray Lubricant	260. Emergency Fuel Unit	273. Door Lock Shims
248. Wet Valve Refacer	261. Shop Poster	274. Battery Lifter
249. Safety Tire	262. Anti Rust Paint	275. Hydraulic Tappet
250. Plastic Paint	263. Water Pumps	276. Door Handle Tool
251. Exhaust Outlets	264. Ring Compressor	277. Inspection Process
252. Soldering Booklet	265. Tool Sets	278. Temperature Gage
253. Snap-On Lens	266. Repair Panels	279. Replacement Grille
254. Racing Piston	267. Fuel Regulator	280. Puller Set
255. Cleaner Polisher	268. Fender Replacement	281. Floor Paint
256. Spot Welder	269. Tail Pipe Extension	282. Transmission Parts
257. Matching Lamp	270. Brake Lining Deal	283. Safety Switch
Your Name		. Your Title
Your Company		
Jobber	Independent	Dealer

tune-up service for Spring and Summer. The poster suggests a thorough mechanical check-up as the best way of "getting ready for the open road." Measuring 25 in. x 38 in. the poster is printed in red, yellow and black for maximum attention value.

262. Anti-Rust Coating

Minnesota Mining & Mfg. Co.: A new anti-rust coating known as "Corogard" is a transparent liquid for use on bright metals on the body. It is reported to resist weathering without discoloring, withstands car washing and has resistance to salt water spray, salt-treated streets, and extremes of temperature. It is available in quart and gallon cans for trade use, and in eight ounce cans for resale to car owners.

263. Water Pumps

Airtex Automotive Division:
Availability of a comprehensive
line of water pumps to be marketed under the Airtex trade mark
has been announced by this firm.
The Airtex water pumps are said
to duplicate car manufacturers'
specifications and are available
for all cars, trucks, and buses. The
manufacturer states that every
pump is vacuum tested. They are
available in both bearing and
bushing types, and leakproof seals

provide perfect seal between parts.

264. Ring Compressors

Zim Manufacturing Company: Two new ring compressors have been announced, Model 214 for passenger cars and Model 215 for trucks and tractors. Model 214 is a two-band model with 2½-in. to 5-in. ring capacity. The self-locking, heavy-duty ratchet pawl is said to prevent premature release. Model 215 is a four-band model which takes up to 3½ to 7 in. capacities.

265. Tool Sets

Challenger Div. of Penens Corp.: Three new "General Purpose" tool sets are now available. The largest set, with 46 pieces, contains ¼-in. midget size sockets and attachments, ½-in. drive tools for regular and heavy-duty work and a wide selection of Phillips and regular screwdrivers, pliers, punches and chisels. Sockets are thin-walled, hot-broached alloy and all tools are enclosed in a metal box with "lift-out" tote tray. Other sets are available in 30-piece and 21-piece assortments.

266. Repair Panels

Graver Industries, Inc.: Rear door panels for 1949, 1950 and 1951 Mercury automobiles are available from this firm. Known as E-Zee-On, these panels come ready for mounting with flanges formed and holes for door locks, and door handles accurately pierced. The manufacturer claims that the use of E-Zee-On door panels eliminates the need for making layouts, forming, drilling, removing window moldings and glass, taking out upholstery and hardware.

267. Fuel Regulator

The Schneider Carburetor Company: The Milemaster fuel pressure regulator is designed to even the flow of fuel when it enters the carburetor and reduces fuel pressure to a predetermined factory setting. It is said to practically eliminate pressure against the needle valve and seat, greatly reducing wear.

268. Fender Replacements

Foxcraft Products: The POC series replacement fender to fit the 1949-50-51 Pontiacs and the CHC series to fit 1951-52 Chevrolets are now available from this firm. These complete fenders feature a lip which hooks under the quarter panel to assure perfect alignment.

269. Tail Pipe Extension

Arvin Industries: A porcelain coated tail pipe extension is now offered in colors to harmonize with the body or trim. It is claimed to withstand heat of the exhaust without tarnishing, and wipes bright. It is made to fit 2-in. and 1%-in. pipe, which includes most cars. It is fastened in (Continued on page 92)

FIRST CLASS PERMIT No. 18 Sec. 34.9, P. L. & R. Philadelphia 39, Pa.

BUSINESS REPLY CARD

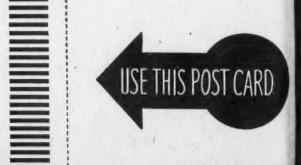
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POSTAGE WILL BE PAID BY

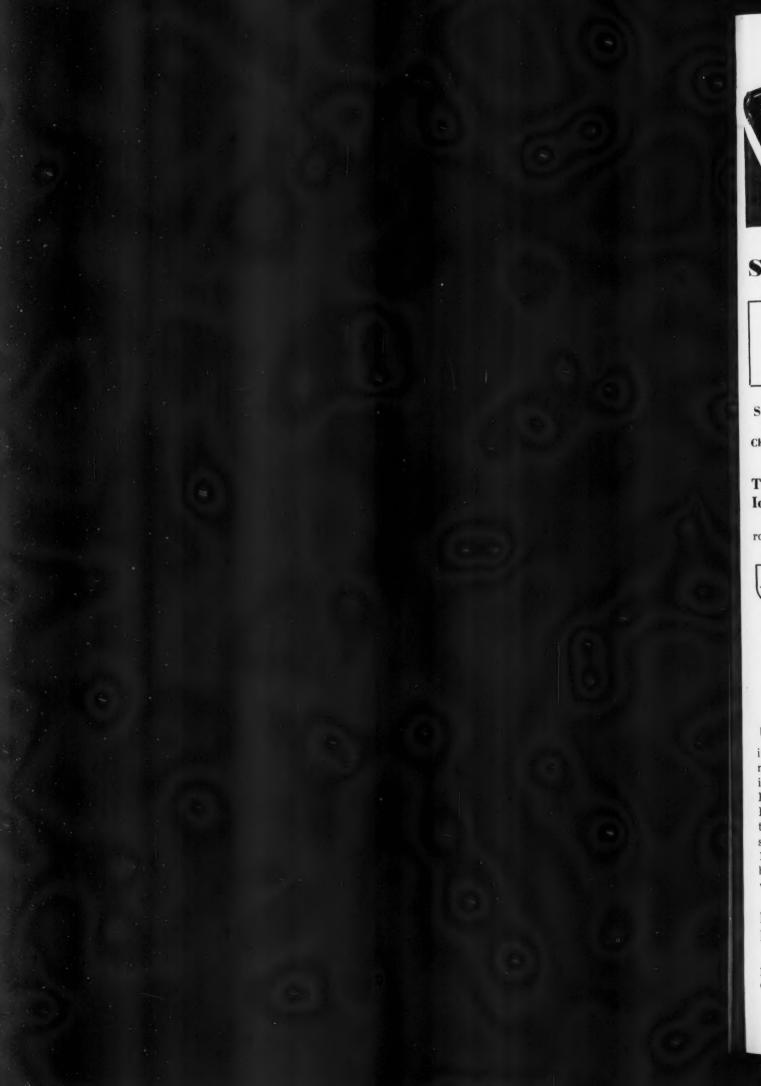
Chilton's MOTOR AGE

Chestnut and 56th Sts.
Philadelphia 39, Pa.

Attention: Frank P. Tighe, Editor









Chilton's MOTOR AGE

Flat Rate and Service Manual

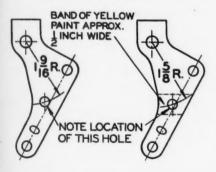
Service Suggestions

The information presented here has been compiled from the Factory Service Bulletins, as an additional service of Chilton's Motor Age Flat Rate and Service Manual Department.

Selected by William H. Lutton
Assistant Editor
Chilton's Motor Age Flat Rate and
Service Manual

Transmission Throttle Rod Idler Lever on Pontiac

The new transmission throttle rod idler lever, Part #516651, used

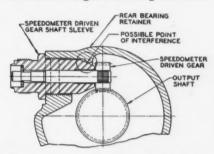


1951 1952

in the throttle linkage on a 1952 model Hydra-Matic equipped cars is exactly the same as the lever, Part #511441, used with 1951 Hydra-Matics, except for the location of the hole for the transmission throttle rear rod. The new 1952 lever is marked with a yellow band of paint approximately ½ inch wide across the hole shown.

Damaged Speedometer Driven Gear on Pontiacs

There have been some cases reported of damaged speedometer driven gears on 1952 Hydra-Matic equipped cars. One of the causes could be an improperly machined transmission gear bearing retainer.



There were cases, in some of the first cars built, where the counterbore in the retainer for the speed-ometer driven gear sleeve assembly was not machined deep enough. This improperly machined counterbore may interfere with the correct installation and alignment of the speedometer driven gear assembly. This condition has since been corrected in production.

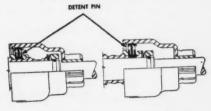
On cars with damaged speedometer driven gear (plastic), first try installing a new speedometer sleeve assembly to determine if there is misalignment of the gears or interference between the rear bearing retainer and speedometer sleeve. Alignment can be checked by checking backlash between the gears as the speedometer sleeve assembly is being screwed into place. The end of a speedometer cable or a suit able tool should be used on the driven gear shaft while the sleeve is being screwed into place so that lash between gears can be checked constantly. It is important that a lash be maintained during installation and after sleeve is tightened in place.

Check also to see that both speedometer drive (teeth in the transmission output shaft) and driven gears are free from all burrs, dirt, and grease. If there is a bind in the gears during the instalation or after tightening the sleeve in place, the sleeve assembly should be removed and the tapered end of the sleeve coated with prussian blue. Install the sleeve again to determine the point of interference. Grind the sleeve as necessary to eliminate the interference or binding. This can be done on a bench grinder. Be sure that no metal chips enter.

New Starter Drive On Plymouth

A new improved starter drive, the "Folo-Thru," is one of the features of the new Plymouth. A new spring loaded detent pin assures more positive engagement.

The new drive can be installed on all previous models. It is available under Part #1473219. Care should be exercised when installing the starter motor on the engine, if the pinion is in the extended position. It is possible, under these conditions, for a pinion tooth to butt against a ring gear tooth and



AGED ENGAGE

remain in that position after current is applied to the starter. The best procedure is to feed the teeth of the pinion into the proper engagement with the ring gear teeth before you tighten the starter mounting bolts.

READERS CLEARING HOUSE



by Jack Montgomery, Technical Editor

- Packard misses after overhaul
- · Nash has a peculiar knock
- Replacing Chrysler valve guides
- Changing O.D. cut-in speed
- Cadillac has Hydra-Matic noise
- Buick vibration hard to find
- Olds engine hard to turn over
- High-speed miss in Olds V-8
- Transmission leak in G.M.C.
- Removing squeal from brakes
- Installing lifters in Lincoln
- · How chain affects timing

TROUBLE

Miss on Packard After Complete Overhaul

We have a 1938 series 1600 Packard with a consistent miss on No. 5 cylinder. This car was overhauled in our shop about 3500 miles back, new rings, bearing inserts and valve grind, cylinders in good shape. Also a new carburetor and new complete distributor were installed.

Since the time when the miss showed up, we have installed new plugs, installed new distributor cap, new intake gasket, checked the sparks and checked the compression. Still no improvement.

Ray Richardson Malden Garage Malden, Wash.

SINCE your compression and everything checks all right on your job, I am inclined to believe this is caused by a faulty vacuum pump diaphragm. To test this, disconnect the vacuum line at the intake manifold and plug the manifold up. If the engine hits on all six, it would indicate a punctured diaphragm which should be replaced. Another point worth checking is the vacuum advance on the distributor as it may be leaking also

Nash Engine Has A Peculiar Knock

We have a 1946 Nash Ambassador that has developed a peculiar noise in it that we have not been able to locate. We replaced the pins; aligned the rods, knurled the pistons. We put in new rings and cut the ring grooves. Honed the cylinders and all this work was done at 62,766 miles. Soon after it had developed the noise. It sounds as though a valve was not closing or that it might be sticking in the guide, yet it doesn't miss. So we then replaced the rocker arm and the retainer balls which were badly worn.

SHOOTING PROBLEMS

After taking a long trip, we replaced the valve lifters and the timing chain. We tuned up the engine, readjusted the valves and then ran the motor for a time with a reliable tune-up oil in both the oil and also the gas. Still without results.

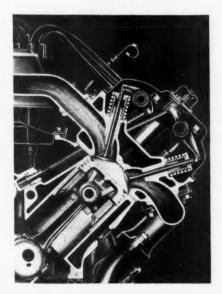
Harley Evers
Harley Evers Auto Service
55 East "A" St.
Upland, Cal.

I WAS wondering whether this noise could be shorted out. By shorting each spark at a time, the noise might diminish. I have heard of similar cases and usually the noise came from the check valve in the oil pump. Sometimes these set up a vibration and sound like a valve tap. Also I would suggest that you check the vibration damper. These dampers have an oil hole and should be lubricated once in awhile. I'd also check the push rods to make sure they are not bent.

Procedure for Replacing Chrysler V-8 Valve Guides

We have a 1951 Chrysler V-8 that we are going to do a carbon and valve job on. What is the correct procedure for replacing the valve guides?

Roslyn Garage Roslyn, Pa.



THE procedure is as follows: Drive the old guides out through the top of the cylinder head. Install the new ones by driving them up through the valve port opening. Place a steel scale across the combustion chamber dome and drive the intake valve guide until 31/32 inch is obtained between the scale and the end of the guide. Intake guides should be driven in flush with the head. Oil spit hole in the side of the exhaust valve guide must point upwards.

Can Overdrive Cut-In Speed Be Changed?

We have a customer with a 1949 Studebaker Comm. He wants his overdrive to engage sooner than 30-35 mph. Is there any other governor he can use on this unit or any other remedy we might use to help him?

> Nolan Kunkel Kunkel's Garage 314 East Court St. Sequin, Texas

To the best of our knowledge there isn't a thing you can do to change the cut-in speed. The governor weights would have to be recalibrated and it would have to be done by an expert.

Cadillac Has a Noise in The Hydra-Matic at 30 mph

We have a 1947 Cadillac that has a noise in the Hydramatic when driving around 30 mph. It sounds like a light hum in the rear. What can we do or look for to correct this condition? The car has 55,000 miles on the speedometer.

> R. H. Erny 17th & Cherry Sts. Philadelphia, Pa.

USUALLY a noise such as you have mentioned is caused by a worn rear pump. To find the noise, drive the car between 25 and

35 mph, shift into neutral and shut off the engine, allowing the car to coast through range. Then listen for a clicking noise or a light knock. This is caused by nicked teeth.

Drive gear noise can be heard at all times and on drive, coast, and torque changeover, I would suggest removing the rear pump and either overhaul it or renew it.

Chilton's Motor Age Flat Rate and Service Manual, 23rd Edition (1952) has received the approval of the Office of Price Stabilization.

Vibration in This Buick Is Hard to Locate

We have a 1949 Buick Super which has vibrations at various speeds. It is first noticed in the floor boards. Vibration starts at 45 mph., stops at 47 mph. Starts again at 58 mph. and stops at 62 and starts at 70 mph.

All the wheels have been checked for balance—both statically and dynamically. The U-joint and shaft bearing were installed and new rear shocks and front spring renewed. New motor mounts were installed, front wheel bearings checked and the car has been checked for wheel alignment.

Calvin D. Mathews Pinetop Service Pinetop, Ariz.

O N your Buick that has vibrations at various speeds, I was wondering whether this engine will do the same by revving the engine without driving the car. If it does then the trouble could be caused by an unbalanced fan or flywheel or possibly the vibration damper. If the noise only appears when traveling on the road and you are sure about the wheel balance, then I would suggest checking the propeller shaft as it may be out of balance.

(Continued on page 103)



VERY repair shop owner has frequent requests for credit, and the trend seems to be toward an increase in the number of these requests. This means that shop operators will have to move with caution or over-extended credit may present a problem. Many shop owners have learned this the "hard

way" in recent months, and from their bitter experiences we have learned a number of suggestions well worth passing along.

The old and very reliable principles of procedure in the operation of credit business should be adhered to, and we should study new developments with just as much care and caution.

"The big thing today is that we have to exercise more and more control over charge ac-

counts," declares one Southern garage owner, "for people who have suddenly bought without much attention to more control over their spending are finding that money may be plentiful but prices on the necessities in their family lives are creating a scarcity of money for anything else.

"With many of these people, if they can get credit, they go right ahead spending . . . and soon are actually unable to pay their bills.

"Business has always had its share of deadbeats and people who pile up accounts they just can't pay. Today we're going to find a lot more of these developing if we are not careful.

"The person who moves from cash to credit today must be watched with the utmost care to help them in keeping from piling up indebtedness greater than they can pay. These people, particularly of the younger generation, have never had experience with such difficulties and it will be something new to them.

"We're trying to avoid this situation by studying every such application with the utmost care and by fixing, through agreement at the time the charge account is opened, the limit of that account. That's always been the best time to fix this limit for then there are no hard feelings when the limit has been reached and credit cut off . . . for the customer helped to set the stop figure!"

Issuing credit coupon books (nothing more than the old grocery or ice coupon books) and having the customer sign the note therein at the time the book is issued, is another good method of holding down such credit. The coupons are

by Ernest Fair

Credit Policies

As times change, business habits must be altered to suit conditions. Here's a report on the attitudes of a number of successful shops regarding credit used as cash and when they are gone it is easy to point out to the customer that another book cannot be issued until the note on the last one has been paid.

"The main thing we have to do today," cautions another garage man, "is to help people from getting in too deep for their own good. My own experience has been that the people who are deliberate deadbeats and defaulters are definitely in the minority. With most people it's a matter of finding themselves in a tight spot with no way to get out... during the year ahead it's going to be our job to help people from getting into such spots."

Another garage owner points out that one can very easily suffer considerable losses through errors in handling charge accounts; particularly where the firm has not been handling much credit business in the past and therefore has not had to be too careful. He suggests eight pointers:

"(1) Don't rush the job of posting accounts; mistakes are made too easy when this is done.

"(2) Check every statement at least twice and use an adding machine . . . mental calculation being done hour after hour can easily slip into an error groove.

"(3) Check and re-check charge slips for it is easy to forget some item, particularly during rush periods.

"(4) Exercise great care in transposing figures from one notation to another...a careless glance at \$9.69 on a charge slip can make it \$6.96 on the ledger sheet.

"(5) Make every charged item stand up to the rules for granting credit as set up originally . . . a single \$1 charge item can soon grow into a \$100 account.

"(6) Check each charge before the customer; that avoids disputes when statements are rendered.

"(7) Forget nothing...one tiny leak means all of the profit on the whole account gone.

"(8) Avoid slow accounts . . . they can very easily turn into bad accounts."

Since we are today receiving so many new applications for credit it has also been found to be a good

(Continued on page 118)



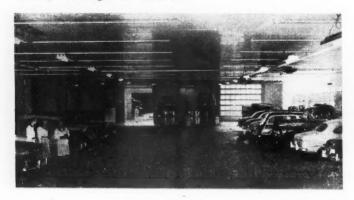
The Golden Rule Applies at Burrows Motors

A well-proven policy of customer relations has worked successfully for this Western dealership



Service personnel have a special lecture and projection room in which the training course is conducted.

Part of the shop floor at Burrows Motors. Notice water drain running the length of the floor.



by Edward R. Lucas

THE heart of Burrows Motor Company's success formula is simple to state, but not so simple to carry out in day-to-day operation. This Yakima, Wash., Ford agency follows the principle of treating the customer as you would like to be treated if you were a customer. Under some circumstances this requires considerable faith in the long-term rewards of such a policy.

A case in point was the policy adhered to during post-war new car shortages, of permitting customers to buy without requiring purchase of a number of accessories. Deliveries were made to each buyer strictly in order according to his position on the list with exception of priority buyers such as doctors. As indicated in car and service sales, their customers did not forget this far-sighted consideration of their interests, Mr. J. L. Elam, Jr., manager of the firm, states.

(Continued on page 84)

Chil

Newest of the new in "hard-top" smartness!



Studebaker Starliner Commander V-8 or Champion

The jet-streamed wonder car of 52

OUTSTANDING IN STYLING!

OUTSTANDING IN PERFORMANCE!

OUTSTANDING IN GAS ECONOMY!



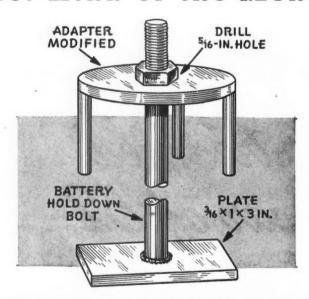
Kinks

If you've come upon an original idea for making a job easier, a special tool, short cut on a job or any trick of value to other readers, write it down and, if necessary, make a rough sketch. Just make it clear. Send it to Motor Age. If we can use your Kink it may bring seven-fifty, possibly 25 dollars.

For The Best Kink Published Each Month . . . \$25

For All Kinks Published Each Month . . . \$7,50

Best Kink of the Month



Powerglide Clutch Spring Compressor

Here's how to make an adapter to remove the clutch lock ring by compressing the spring when no press is obtainable. Drill a 5/16 hole in the center of the compressor and make a long 8-in. x 5/16 in. stud out of a rod or battery hold-down bolt. Obtain a piece of iron 3/16 in. thick, 1-in. wide, 3-in. long and drill 5/16-in. hole in the center. Weld or braze the stud to the plate, flush to one end. Insert this over the clutch spring and tighten the nut compressing spring to remove the retainer. S. Lenscak, Railroad Ave., Whitehouse Sta., N.J.

Method for Removing Stripped Oil Pan Plugs

I have a good method for removing stripped oil pan plugs. This is what I do. Take a spring leaf, tapered on both ends, and cut off 8 in. Then cut a slot from the end 4-inches long x ¾ in. wide. By driving this slotted end between the pan and the plug, it causes pressure on the plug and it turns out with ease. Philip F. Devereaux, Devereaux Motor Co., 230 Buffalo Street, Freeport, Pa.

Replacing Front Oil Seals on Chrysler

I have found a method for replacing the front oil seals on Chrysler engines. Remove the felt from the oil seal but before installing the new seal in the cover, make a smooth surface on the face of the new seal with a piece of emery cloth on a glass. Also smooth the inside of the pulley hub at the tapered holes. Put the felt on the pulley hub and assemble. When tightened, the felt will compress just enough to make a good seal so no dirt or dust can get at the new seal. This has doubled the life of the front oil seal on all our jobs and still there is no sign of leaking. George L. Seidl, Luxemburg, Wis. (Continued on page 68)

Chil



Perfect Circle's

2 in 1 Chrome piston ring set

Two expander springs with every Chrome Oil Stopper

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1952



Normal Pressure spring—for rebored, resleeved or slightly worn engines.



engines and known oil pumpers. Spring ends notched for identification.

Now, for the first time, mechanics may choose the right spring pressure for every cylinder condition!

Yes-because two expander springs-NORMAL and HIPRESSURE-are packed with every Chrome Oil Stopper . . . mechanics have a choice of pressures to assure positive oil control, regardless of cylinder con-

This new 2-in-1 Chrome Set actually doubles the life of cylinders, pistons and rings, thanks to solid chrome plating on both top compression rings and oil ring rails.

in every installation—whether cylinders are slightly or badly worn-tapered or straight-round or out-ofround—Perfect Circle's 2-in-1 Chrome Set establishes a new high standard of piston ring performance!

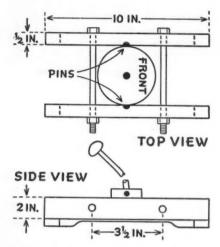
To assure customer satisfaction on every ring job get the complete story on 2-in-1 from your Perfect Circle Distributor today, or write Perfect Circle Corporation, Hagerstown, Indiana.

Perfect Circle PISTON RINGS

The Standard of Comparison

Clamp Supports Transmission While Engine is Out

Here is a simple device which allows engine removal on Chevrolet trucks without removing the transmission. Removing the engine without removing the transmission saves about an hour and a half time.



I have made up a clamp that fastens to the transmission neck above the floor boards, thereby supporting the transmission while the engine is removed. Louis Joerns, Brotzman & Melms Chevrolet Sales, 227 So. Grove Avenue, Elgin, Ill.

Reduce Time on Dodge Truck Clutch Jobs With This Kink

When replacing a clutch on a Dodge truck, it usually is necessary to remove the clutch linkage in order to push the shaft that holds the release bearing out of the clutch housing. This is necessary so the pressure plate will come down. To save time first depress the clutch then block up each clutch finger so that it stays in position after it is removed. After taking out the bolts that holds the pressure plate to the flywheel, it will come down without any trouble Richard Batlar, 902 Victoria Street, Taylor, Texas.

Cure for Points Burning on A Chrysler V-8 Distributor

We found that one set of points burn more than the other. After a lot of checking we found a bad voltage drop on the one set. The distributor has one lead going from the main connection on the distributor to one set of points and a jumper to the other set. We put an extra pigtail wire from the main lead to the other set of points and left the jumper in there and we found no voltage drop and no burned points. We also put an extra ground wire on the side that has no ground pigtail. We have several customers that have Chrysler V-8's, and we cured the trouble on all of them with excellent results. Fadelli & Paul, Automotive Electricians, 105-17th Avenue, San Mateo, California.

Cleaning Stopped-Up and Carbonized Rocker Shafts

Use an old model Chevrolet pushrod, 1935-36 type. It will take care of any length of rocker shaft. Insert the cup-type end of the rod into the bore of the rocker shaft. You will find that it is a perfect fit, and push or tap on the real bad jobs. You will find that the push rod will push all the slush down the shaft and out the last hole. Then hold the assembly down in your cleaning solvent, and operate the push rod like a plunger. You will also find that the rod will act as a pump and also as a syphon. A few deft strokes will result in a perfectly clean job. On very few occasions will it be necessary to remove the plugs from the shaft when using this method. Bartow P. Collins, Moore's Garage, P.O. Box 306. Rock Hill, South Carolina.

Protecting Master Cylinders from Dirt

On 1949 through 1951 Ford passenger cars and station wagons, the brake master cylinder is located almost level with the bottom of the frame. In conditions where these vehicles are driven on dirt roads where they might drag high center, the master cylinder is very often loaded with dirt. This can be prevented by attaching a metal plate to the frame, starting a little in front of the cylinder and extending back past the boot. To attach the

metal plate, drill three holes, one in the front, center and back of the plate. Position the plate on the frame and mark the holes. Drill and tap the frame for \%-in. studs. Dan Boyd, Tourist Garage, Porter, Okla.

Removing Clutch Assembly On 1951 Studebaker Comm.

First remove the transmission and disconnect the clutch assembly linkages in the usual manner. Then instead of removing the cross member, just pull the clutch housing back as far as possible and thereby gain enough clearance to pull the disc and pressure plate out. This operation saves a lot of time and can also be applied on Studebaker Champions prior to 1951. Francisco Lieberman, 4516 North Rogers Avenue, Baltimore, Md.

Modification of Valve Lifter Improves Use

I have improved my L-head valve lifter by making an extension for the handle to bring it out past the fuel pump, exhaust pipe and fuel and vacuum lines obstructing the front valve compartment on some models. It is one of those with the turn handle. Cut a piece of 34-in pipe 9 in. long, and slot the end to slip over the handle. John Van-Dusen, 18 Pineridge Place, Delmar, New York.

Wrench Made for Freeing Heat Risers

When Pontiac heat control valve shafts are frozen due to heat and corrosion, I use this manifold heat control valve wrench to free up the valve shaft. After tapping the end of the shaft a few times with a hammer place this wrench on a counterweight and move it up and down until the shaft is free. I designed this wrench for use in place of hammer and pliers which I for



merly used. I find it to be both a labor and time saver. Lewis L. Snyder, Miller Motors, Inc., 354 Grey Park Ave., Amsterdam, N. Y.



In order that body shops can promote their part in National "Get-the-Dents-Out-of-Your-Fenders" Month (June, 1952), a 4 foot x 5 foot poster, like the one shown here, along with a host of other valuable sales material, is being made available free of charge to any body shop requesting it. Just write to Minnesota Mining & Mfg. Co., St. Paul 6, Minn.

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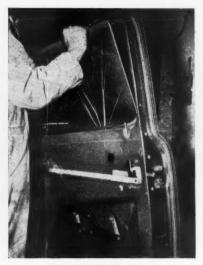
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1952



Tighten all body bolts.



Replace cracked glass.



Wash, polish or wax car.

by Arthur H Nellen, Jr., Service Editor

Body Tune Up— A Package You Can Sell

Here's a real business builder! Manufacturers are going all out to help the trade promote this valuable service

As a body shop increases in size and employs more men (with increased overhead) it must have an "ace-in-the-hole" to keep a steady flow of business coming in when accident repair business is slack. One idea which can very effectively accomplish this purpose is a "Body Tune-Up" service. It can be offered as a "package deal," and might be wrapped up in several different ways, one of which is shown here in the form of a list. A Body Tune-Up need not be offered as

a bargain or used as a "come-on," but it should be set up as a sound, legitimate service which will be advantageous to the customer as well as to the shop.

When a body shop offers this service, it accomplishes six purposes: 1—It reminds the customer about keeping his car in top-notch condition. 2—It educates the customer to the fact that a body shop is good for more than just providing accident repairs. 3—It gives the body shop an oppor-

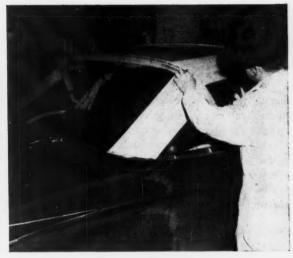


Tighten and lubricate door latch mechanism.

Body Tune Up	
Seal all water leaks	
Tighten and lubricate hinges, han- dles and locks on doors, hood and	
rear deck lid	
Tighten body bolts and remove rattles Wash, polish or wax car	
Apply chrome protective material	
Special Body Tune Up	
Straighten and repair all damaged metal	[7
Align doors, hood and deck lid	
Replace damaged moldings Touch-up or refinish the car	H
Apply rechroming material Regrain window garnish moldings	
and dash panel where necessary	
Apply preservative paint to convert- ible top or replace the top	
Apply underbody sound deadener	
Flock rear luggage compartment and glove compartment	
Clean or spray-tine upholstery Install seat covers, arm rest covers	
and new door panel upholstery	

tunity to expand its services and consequently to increase potential service volume. 4—It provides a new opportunity for advertising the shop's name before the motoring public. 5—Through the expanded services and advertising, it will draw in new customers while increasing old customer business. 6—It will increase the shop's profits—which is the aim of all aggressive business men.

The advertising and sales approach on this



Replace convertible tops when necessary.



Repair all damaged sheet metal.

Install seat covers when necessary.



Body Tune Up-

service will, of course, differ from that of the mechanical work. In the first place, it's somewhat of an educational job. One manufacturer is offering help from this end with direct-mail postcards, posters and other material which makes effective and inexpensive advertising. The copy points out that a Body Tune-Up will extend the life and improve the appearance of the car—

"just as important as a motor tune-up!" Other manufacturers are promoting similar campaigns to bring customers into the body shops.

A large manufacturer of body shop materials has inaugurated a nation-wide campaign known as National "Get The Dents Out of Your Fenders" Month (June, 1952). This campaign is backed up by the car factories as well as a number of other equipment and material suppliers. Shops are offered, free of charge, a wall sales chart on refinishing; a 4 x 5 ft. poster; special estimate tags; newspaper mats; radio scripts and direct-mail post cards.

(Continued on page 76)



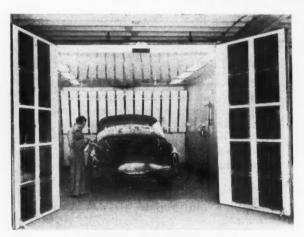
Apply chrome-protective material.



Touch-up small nicks and scratches.

Seal all water leaks.





Refinish car when necessary.

Clean or spray-tint upholstery.



C-11 HEIN-WERNER "PUSH and PULL"

Jackit "Jackit

Economical H-W
Starter "JacKit"
puts extra dollars
in your pocket



The new HEIN-WERNER STARTER "JacKit" (C-11) is your best bet to start bringing in new profits from body, fender, and frame repair jobs. It includes the popular service-proven HEIN-WERNER 10-ton "Push and Pull" Hydraulic Jack and basic attachments, complete in sturdy wooden chest. You can add other H-W attachments and assemblies as your repair department grows. Your jobber will be happy to give you full details on this and other new HEIN-WERNER "JacKits". You'll save money by buying complete "JacKits"—see them, today.

The Hein-Werner line of hydraulic jacks is COMPLETE! It includes Under-Axle Jacks of 3, 5, 8, 12, 20, 30, 50 and 100 tons capacity . . . "Bumper-Lift" Hydraulic Jacks for passenger cars . . . "Swift Lift" and Service Jacks for shop use.

HEIN-WERNER CORPORATION, Waukesha, Wis.









Current Passenger Car Price, Weight and Body Table

Following are prices at factory for cars with standard equipment as of April 21, 1952. State or local taxes, transportation and finance charges and optional equipment are extra.

BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight	BODY MAKE AND MODEL	List Price at Factory without Federal Taxes	Federal Taxes and Handling Charges	Delivered Price at Factory including Federal Taxes	Shipping Weight
BUICK Special 40 Bus. Coupe. Sport Cpe., 2d. Sedan, 2d Sedan, 2d Sedan, 4d Sedan, M. Sedan, Del.,, 2d Givra. Cpe., 2d. Conv. Cpe., 2d. Super 50 Rivra. Cpe., 2d. Sed. Rivra., 4d.	1864 1918 1951 1994 2005 2048 2086 2399 2244 2323	176 181 183 187 188 191 193 216 216	2040 2099 2134 2181 2193 2239 2279 2615 2460 2545	3605 3620 3665 3665 3850 3775 3825	DE SOTO\$ DeLuxe Club Coupe. Sedan, 4d, 8p Custom Club Coupe. Sedan, 4d, 8p Custom Club Coupe. Sedan, 4d, 6p. Sodan, 4d, 6p.	2137 2149 2370 2896 2333 2352 2664 2761 2940 3099	166 167 184 224 181 183 206 215 228 240	2303 2316 2554 3120 2514 2535 2870 2976 3168 3339	3435 3540 3650 4035 3565 3660 3720 3865 4020 4155	HUDSON (Conti Hornet 6 Club Coupe. Sedan, 4d Hollywood. Conv. Brghm. Commodore 8 Club Coupe. Sedan, 4d. Hollywood. Conv. Brghm.	nued) 2485 2510 2809 3038 2485 2510 2809 3038	238 239 262 280 238 239 262 280	2723 2749 3071 3318 2723 2749 3071 3318	3550 3600 3630 3750 3580 3630 3630 3770	PACKARD 200 Club Sedan, 2d Tour. Sedan, 4d 200 DeL. Club Sedan, 2d Tour. Sedan, 4d 250 Mayfair Cpe Conv. Coupe 300 Tour. Sedan, 4d 400	2278 2327 2414 2464 3028 3174 2843	197 201 208 211 265 276 251	2475 2528 2622 2675 3293 3450 3094	3640 3680 3680 3885 3805 4000 3880
Conv. Cpe., 2d. Est. Wagon, 4d. R'dmaster 70 Rivra. Sed., 4d. Rivra. Cpe., 2d. Conv. Cpe., 2d. Est. Wagon, 4d.	2605 3000 2899 2995 3130 3616	243 272 279 287 298 333	2848 3272 3178 3282 3428 3949	3970 4105 4285 4235 4395 4505	Suburban	2505 2525 2837 2934 3113	266 195 196 220 227 241	3708 2700 2721 3057 3161 3354	4370 3675 3760 3850 3950 4080	KAISER VIRGI De Luxe Bus. Coupe Sedan, 2d Sedan, 4d Traveler, 2d Traveler, 4d	NIAN 2037 2210 2260 2309 2357	176 190 193 196 201	2213 2400 2453 2505 2558	3145 3195	PLYMOUTH‡ Concord Coupe, 3p Sedan, 2d	1480 1612 1989	121 130	1601 1742	2893 2959
CADILLAC Series 62 Spt. Coupe Tour. Sedan Cpe. deVille Conv. Cpe Series 60 Tour. Sedan			3636 3962 4110	4120 4125 4200 4390	DODGE‡ Wayfarer Coupe, 3p Sedan, 2d Meadowbrk. Sedan, 4d Coronet Club Coupe	1737 1873 1993 2063	135 147 156 162	1872 2020 2149 2225	3050 3140 3355 3290	Sedan, 2d Club Coupe Sedan, 4d Traveler, 2d Traveler, 4d	2318 2338 2367 2416 2465	198 199 201 205 208	2516 2537 2568 2621 2673	3185 3185 3220	Suburban Savoy Cambridge Club Coupe Sedan, 4d Cranbrook Club Coupe Sedan, 4d Belvedere	2103 1640 1675 1731 1760 2039	161 170 134 136 139 141 162	2150 2273 1774 1811 1870 1901 2201	3145 3165 3030 3068 3046 3088 3105
Series 75 Tour. Sedan Imp. Sedan			5361 5572	4770 4790	Sedan, 4d Diplomat Conv. Coupe Sierra Sedan, 4d, 8p	2078 2398 2486 2679 2823	163 187 193 209 220	2241 2585 2679 2888 3043	3385 3475 3520 3735	Cosmopolitan Sedan, 4d Sport Coupe Capri	3198 3293			4125 4155	PONTIAC	2143	170	2313	3250
CHEVROLET Styl. Spec. KJ Bus. Coupe, 2d Sedan, 2d Sport Coupe Sedan, 4d Styl. DeL. KK Sedan, 2d Sport Coupe	1403 1482 1488 1533 1567 1584	130 135 136 141 144 146	1617 1624 1674	3045 3085 3050 3115 3110 3100	FORD Maintine 6 Bus. Coupe Tudor Fordor Ranch Wagon Customline 6	1389 1485 1530 1832			2984 3070 3173 3377	Sedan, 4d Sport Coupe Convertible MERCURY Customline Two Door Four Door	3518 3665			4140 4235 4350 3335 3390	Chieftain 6 Sedan, 2d Sedan, 4d DeL. Sed., 2d DeL. Sed., 2d DeL. Catalina Sup. DeL. Cata DeL. Conv. Cpe Stat. Wagon DeL. Sta. Wgn.	1775 1829 1871 1925 2097 2158 2226 2383 2461	168 172 175 179 192 196 202 214 220	1943 2001 2046 2104 2289 2354 2428 2597 2681	325 327 325 327 335 336 347 359 352
Sedan, 4d	1618 1844 1957 2116 1567	147 166 175 186	2010 2132 2302	3145 3215 3380 3475 3110	Tudor. Club Coupe Fordor. Mainline 8 Bus. Coupe Tudor. Fordor. Ranch Wagon. Customline 8 Club Coupe.	1570 1579 1615 1459 1555 1600 1902			3070 3079 3173 3085 3151 3207 3406 3153	Sport Coupe Sta. Wagon, 6p. Sta. Wagon, 8p. Monterey Four Door Sport Coupe Convertible	2100 2525 2570 2115 2225			3435 3795 3375 3520 3635	Chieftain 8 Sedan, 2d Sedan, 4d Del. Sed., 2d Del. Sed., 4d Del. Catalina Sup. Del. Cata Del. Conv. Cpe Stat. Wagon Del. Sta. Wgn	1845 1898 1941 1995 2166 2227	173 177 181 184 198 202 206 219 224	2018 2075 2122 2179 2364 2429 2500 2671 2754	333 337 333 337 344 355 368 363
Windsor 6 Club Coupe Sedan, 4d, 6p Twn. and Cty Sedan, 4d, 8p Wind. DeL. 6 Sedan, 4d Newport	2279 2301 2950 3080 2512 2844	178 179 228 238 198 220	2480 3178 3318 2707	3550 3640 4015 4145 3775 3855	Tudor. Fordor Country Sed Crostline 8 Victoria Sunliner. Country Sq	1640 1685 2060 1925 2027			3151 3207 3617 3274	NASH Rambler Super Suburban, 2d Rambler Cust. Cty. Cib. Sed., 2d. Conv. Sedan, 2d. Stat. Wagon, 2d. States'n Super	. 1828 d 1912 d 1936	162 168 168 168	1990 2080 2104 2104	2515 2420 2430 2515	STUDEBAKER Champ. Cust. Sedan, 2d, 6p Coupe, 5p Sedan, 4d, 6p	. 1574 . 1600 . 1606	150 152 151	1724 1752 1757	265 266 289
Conv. Coupe Saratoga 8 Club Coupe Sedan, 4d, 6p Twn. and Cty Sedan, 4d, 8p New Yorker 8	2958 2937 2963 3619 3846	228 228 229 278 296	3187 3165 3192 3897	3990 3935 4010 4345 4510	HENRY J Vagabond Sedan, 4 cyl Sedan, 6 cyl Corsair	1239 1373	110 120	1494	2365 2385	Sedan, 2d Sedan, 4d States'n Cust. Sedan, 2d Sedan, 4d Amb. Super	. 1982 . 2102 . 2124	178 178 188 188	2125 2160 2290 2312	3045	Champ. Del., Sedan, 2d Coupe, 5p Sedan, 4d Champ. Regal Sedan, 2d	1661 1687 1692	155 156 157 161	1816 1843 1849	268 267 272 269
Sedan, 4d, 6p Newport Conv. Coupe Imperial 8	3659 3773	251 282 291	3941 4064	4205 4325 4450	Sedan, 4 cyl Sedan, 6 cyl	1332 1466	117		2370 2405	Sedan, 2d Sedan, 4d Amb. Gust. Sedan, 2d Sedan, 4d	. 2327	207 207 218 218	2498 2534 2671 2692	3430	Coupe, 5p Sedan, 4d Starliner Soft Conv Commander	1765 1770 2038 2071	163 163 182 186	1928 1933 2220 2257	268 272 286 287
Club Coupe Sedan, 4d, 6p. Newport. Crown Imp. 8 Sedan, 4d, 8p. Limousine	. 6355	277 277 300 460 474	3812 4194 6 6821	4220 4315 4365 5395 5430	Pacemaker 6 Coupe, 3p Brougham Club Coupe Sedan, 4d	2047	203	2250 2297	3305 3355 3335 3390	DeLuxe 88 Sedan, 2d	2050	196	2246	3565	Regal Sedan, 2d Coupe, 5p Sedan, 4d State Sedan, 2d	1894 1921 1927	178 180 180	2072 2101 2107 2158	304 303 304 304
CROSLEY Bus. Coupe Hotshot Rdst Stat. Wagon Spts. Roadstr.	. 874 . 882 . 928	61 71 71	943 9 952 1 1002	1340 1175 1403 1175	Wasp Brougham Sedan, 4d Club Coupe Hollywood Conv. Brghm Commodore 6 Club Coupe	2186 2234 2234 2551 2771	210 214 214 239 255	2396 2448 2448 2790	3470 3485 3435 3525	Sedan, 4d Super 88 Club Coupe Sedan, 2d Sedan, 4d Holiday Conv. Coupe	. 2110 . 2127 . 2173 . 2235 . 2430	201 202 206 210 225	2311 2329 2379 2445 2655 2833	3597 3603 3649 3640 3867	Coupe, 5p Sedan, 4d Land Cruiser Starliner Soft Conv	. 2001 . 2006 . 2151 . 2282	186 187 198 206 211	2187 2193 2349 2488 2531	30: 30: 31: 32: 32:
Sedan Conv. Sedan Super. Sta. Wag	957	7	8 1033 7 1036	1363 1320	Sedan, 4d Hollywood	2421	234	2655 2977	3595 3625	Sedan, 4d	2533 2750 2941	251	2767 3001 3207	3765	WILLYS DeL. Sedan, 2d Cust. Sedan, 2d				257 258

[‡] Prices do not include delivery and handling charges.



"Stick to original factory parts and treat each car like your own"

"Twenty-five years ago I moved to Lancaster, Pa., and started into the service business. I hired a smart old timer, who really set me wise about servicing cars and running a business. He told me, 'Stick to Original Factory Parts and treat each car like your own.' I've done my best to follow that advice through the years, and it pays. Last year we had to enlarge our service shop for the fifth time."

George D. May 16 East Walnut Street, Lancaster, Pa. The outstanding customer satisfaction Auto-Lite Original Factory Parts afford service men is proved by this fact: more than half of America's car makers specify Auto-Lite. Make the wise choice of original factory parts and protect your honest workmanship . . . and build your profits and your business. For full information, write direct to

THE ELECTRIC AUTO-LITE COMPANY
Toledo 1 Parts & Service Division Ohio



Chilton's MOTOR AGE, MAY, 1952



Body Tune Up

Continued from Page 72

The campaign will be further publicized in an antique auto parade in New York City, in which some "horrible examples of fairly new cars, which are badly rusted and dented, "will be interspersed to emphasize the importance of body maintenance. The contrast of the

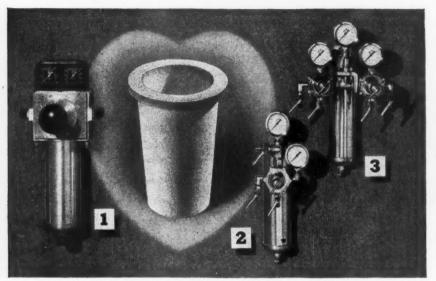
beautifully kept-up antiques against the shabby post-war cars will be dramatic evidence to car owners of how a car can be made to last indefinitely or allowed to deteriorate before its life expectancy is over.

All this plus publicity in newspapers, magazines and on radio and

television—to get the motorist into the body shops for much-needed body work.

For the trade, this is the opportunity of a lifetime. What better time to inaugurate a Body Tune-Up service as when such an extensive sales and advertising campaign on body work is being launched?

Before going into the Body Tune-Up service, the shop has several preparatory tasks. First, must take inventory of the services which it can handle internally. Many shops don't, for instance, install tops on convertibles. A reliable specialist in this field must be lined up and arrangements made with regard to time required charges and so forth. Any work which is to be "farmed out" must be arranged for, if the service is to work smoothy. Equipment and supplies which the shop needs to handle any of the services itself must be inventoried. Rechroming



Illustrated above: 1-Model E-75; 2-Model 538-A; 3-Model 539-A

A heart of metal to assure clean air for better refinishing...

found only in Binks oil and water extractors

The efficiency and service life of an oil and water extractor depend so much on the filter that it's truly the heart of the instrument.

In these Binks Oil and Water Extractors, there's a unique all metal filter that traps oil, water and all other foreign particles larger than 1/1000 of an inch.

This filter lasts indefinitely, too, because it's made of powdered bronze. And it's easy to remove and wash out.

So—to protect yourself from refinishing blemishes and to get easier upkeep in the bargain choose the Binks extractors with the metal "heart."

ask your jobber for Binks Catalog No. 101. You'll find it a handy guide for selecting Binks extractors and other cost-cutting equipment. Address: Binks Manufacturing Company, 3124-34 W. Carroll Ave., Chicago 12, Ill.



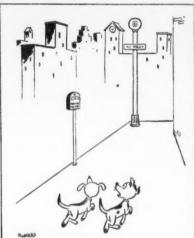
Binks
EVERYTHING FOR
SPRAY PAINTING



GUNS . SPRAY BOOTHS . COMPRESSORS . EXTRACTORS & ACCESSORIES

REPRESENTATIVES IN PRINCIPAL U. S. & CANADIAN CITIES . SEE YOUR CLASSIFIED DIRECTORY





"Stay away from that one—that's a pay station!"

material, flock, chrome protective coatings and so forth are all products which many shops may not have in stock, but for the few dollars investment they will bring in many times their cost in profits.

Some of the jobs included in a Body Tune-Up will require techniques which may be unfamiliar to some of the employes. The surest way to provide the right information is to contact the suppliers of the products involved. For example, the people who supply flocking material or the manufacturers of the flocking guns will always

(Continued on page 78)

CUSTOM BUILT DIESELS ARE PRECISION TENSIONED



One of the big reasons for the high reputation of Cummins Diesels is the extra care Cummins uses in building its engines. For example, each Cummins Diesel is run in after assembly, then completely disassembled for reinspection. Then it is carefully reassembled and tested again. In both assembling operations, Snap-on Torqometers are used to assure complete accuracy of tensioning.

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In the maintenance of any engine...gasoline or Diesel... Torqometers should be used wherever bolt torque is specified by the maker. Torqometers are time-and-money savers... the mechanic works swiftly and confidently... he sees the applied torque... hits the specified pressure every time! Snap-on Torqometers are built in 15 standard models, capacity from 0 to 30 inch-pounds up to 2,000 foot-pounds. Try the Torqometer right in your own shop... ask your Snap-on Man on his next call. Write today for your Snap-on Catalog of more than 4,000 Snap-on hand and bench tools.

SNAP-ON TOOLS CORPORATION 8036-E 28th Avenue, Kenosha, Wisconsin

 * Snap-on is the trademark of Snap-on Tools Corporation

2000-1 20111 Avenue, Renosna, Wisconsin



give a good demonstration on how this material is used, and the same holds true for all the other products involved in a Body Tune-Up.

So far as selling the service is concerned, the shop can either obtain advertising and sales material from the manufacturers or have their own printed. A Body Tune-Up does not lend itself to "cut rate"

sales practices, in fact, it is difficult to set prices on most of the services. However, the "package deal" permits it to be sold on the basis of a certain discount off the total of the regular prices of the services rendered.

Here are five good sales points which can be presented to the customer at the point of sale:

1-Keeping the body and interior in good condition helps to make the car last longer, thus providing maximum service for its owner.

2-By maintaining the car's appearance, the trade-in or resale value of the car is upheld.

3-Straightening dents and refinishing damaged areas reduces the rapid deterioration which sets in due to rust and weakened parts. Usually the longer damage exists, the more it costs for repairs.

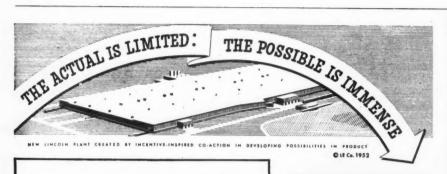
4-The owner's pride in his car is bolstered when it looks right. This thought is emphasized in the "Get the Dents Out" campaign literature. The psychological effect of owning a well-kept car makes for safer driving, since the motorist's driving habits are more careful in order to avoid damaging the

5-It's more pleasant to ride in a well kept car than in a shabby one. For many customers, this point is in itself sufficient reason for investing in a Body Tune-Up.

The campaign brings out some interesting points with respect to the potential market for body work. According to national surveys, almost one-third of the post-war cars need body work of some kind. The figures show that 7,800,000 cars needed body and fender work, 2,400,000 cars need a complete paint job and 3,650,000 cars need a touch-up. That's just the metal and paint work potential! There are many other services which are needed and can be sold in a Body Tune-Up package and in many cases the car owners actually want to have the work done but just put it off-or forget.

It's up to the body shop to remind them. This can be done very effectively with the variety of advertising material which is available to the trade. Tie this in with the excellent consumer advertising which is being carried out by the manufacturers, and the customer should become "Body Tune-Up" minded. Then it's just the matter of the right sales approach followed up by the quality workmenship to convince the customer that a Body Tune-Up "is just as important as a motor tune-up."

Illustrations courtery of The De Vilbiss Company and Minnesota Mining and Mfg. Co.





AC" Has with Built, Built, sells fo Fig. 3—LINCOLN "FLETWELDER; TOday's most versatile are welder. Harange to handle $\frac{5}{8}$ for $\frac{1}{2}$ electrodes. rugged, industrial construction, yet is less than other comparable are welders

, portable operates

on wheels. It compact,

dependable penetration "Fleetwelder's"

out

arc turns

overhead

Or

flat, vertical

easy-to-hold

... on light or heavy work.

LINCOLN WELDED REPAIRS SAVE MAN-HOURS **CUT COSTS**



Fig. 1-Rebuilds Wrecks, Cracked frame is welded in a few minutes with Lincoln "Fleetweld* 7 Welded joint is stronger than original member.



Fig. 2-Repairs Bumper. Butt welds parts in place with Lincoln "Shield-Arc* LH-70" electrode. Saves cost of new bumper.

*Preferred standard for welding electrodes on quality work.

"Arc-Booster," the arc starts automatically every time the electrode touches the work. Eliminates Install. "Fleetwelder" moves about your shop single phase current. are Stronger. cast iron or steel electrode sticking start in. Repairs Repairs steady. 0 the Easyt

SHORT CUTS MAN-HOURS Bulletin 1301 on "Fleetwelder 200" free on request. Write to Dept. 302

THE LINCOLN ELECTRIC COMPANY

CLEVELAND 17, OHIO

The World's Largest Manufacturer of Arc Welding Equipment

OW PRICED "FLEETWELDER

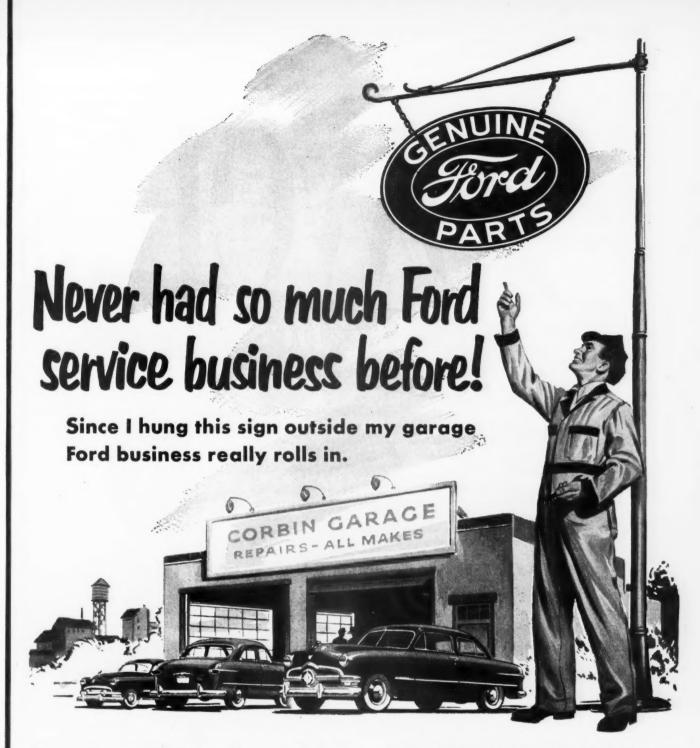
Easier. With "Fleetwelder's" exclusive

... simplifies welding.

You get instant p

every

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Through the years, Ford owners have come to know that their cars will receive the right service where they see this Ford Parts Oval displayed. For it is natural that a shop owner who takes the trouble to stock the right parts for their cars will also take the trouble to do a crackerjack service job.

And, now, it will draw more attention than ever! Ford has recently launched a hard-hitting campaign in Life, Popular Science and many farm papers. It features interest-arresting test track shots that graphically demonstrate the rugged testing of Genuine Ford Parts under conditions in many cases more severe than the actual cars will ever have to endure.

FIND OUT HOW YOU CAN GET THIS SIGN!

This profit-building sign is easy to get. It costs you nothing—yet it's yours as long as you use Genuine Ford Parts.

Write for easy details... just mail this coupon and we'll send you complete information on obtaining this sign,

	ESSORIES SALES DEPARTMENT
Please send me con	d Motor Company, Box 658, Dearborn, Mich aplete information telling me bow independent
garages can get a	Genuine Ford Parts sign. I'd like to cash in
UPIG SALEBY DUMPS	
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TAPERED AND STRAIGHT ROLLER BEARINGS

Bower and Federal-Mogul have combined their efforts to provide you with the finest roller bearing service available anywhere . . . finest in quality and accuracy . . . finest in prompt availability to you. And you get both tapered and straight roller bearings in the Bower line!

Ask your Federal-Mogul Jobber... he's famous for service

Federal-Mogul Service



Delco Distributors . . Continued from Page 53

The three support bearings in the Delco-Remy breaker plate cannot "cut in" or "groove" the support plate because of the self-contained

bricant and the hard, corrosionresisting surface of the lower plate. This treated surface not only reists wear, but also further deereases the friction between the support bearings and the support plate. This easy-gliding feature insures a minimum lag in the smooth action of the breaker plate both during acceleration and deceleration.

The center-bearing breaker plate requires very little maintenance. other than lubrication at regular intervals. Lubrication is accomplished by adding oil to the felt through a hole in the movable plate. Some 'stes of earlier production did not

e the oil hole and are lubricated along the edge of the movable plate next to the support bearings. (See illustration No. 2.) Three or four drops of No. 10-W engine oil each 5.000 miles is recommended.

If, for any reason it is necessary to disassemble the breaker plate, the spring tension can be adjusted by adding one or more shims (Delco-Remy Part No. 1912225) to

GARAGE "Will you please check my tire!

the post carrying the spring washer, when the unit is reassembled. Care must be exercised in making this adjustment since the pull required to start movement of the breaker plate must be not less than 11 ounces nor more than 18 ounces. It is important that the pull does

I think some of the feathers are gone from the cushion part."

not exceed the 18 ounce maximum. Too much tension could prevent the breaker plate from returning properly from an advanced position, resulting in spark detonation in the cylinder during acceleration. The proper method of testing this tension is shown in illustration No. 4. The movable plate should be turned as far as it will go in a counterclockwise direction before the tension check is made.

Specifications limit the vertical. or up-and-down motion of the movable plate to .005-.015 inch. This measurement is made by inserting a feeler gauge between the retainer washer and the flange of the center bearing, as shown in illustration No. 5. This measurement must be made beneath one or more of the stake marks on the flange. Retainer washers (Delco-Remy Part (Continued on page 82)

Here's a steady supply of Oxygen and Acetylene

THE AIRCO LEASE CYLINDERS PLAN

Here's the plan you've been waiting for. A maintained stock of full cylinders to switch for your empties - when you need them . . . where you need them. Under this new Airco 25-year Lease Cylinders Plan (their estimated lifetime) you are assured of cylinders needed to carry on your business and repair your equipment.

PLUS: THESE 3 IMPORTANT ADVANTAGES

1. BETTER CYLINDER COMBINATIONS - Several sizes of Airco oxygen and acetylene cylinders can be supplied in combinations to best suit your requirements.

2. GREATER ECONOMY - You save demurrage - up to \$7.60 a year depending on the size of the cylinders you lease. You save on maintenance and repair . . . we do the testing for you . . . nearly \$12.50 over the lifetime lease period.

3. INSTANT AVAILABILITY - When your cylinders are empty you get a pair of full ones promptly. No valuable time lost waiting for cylinder re-fills.

AT THE FRONTIERS OF PROGRESS YOU'LL FIND





AIR REDUCTION

Offices in Principal Cities

Plus a Nationwide Dealer Organization

Headquarters for Oxygen, Acetylene and Other Gases . . . Calcium Carbide . . . Gas Cutting Machines . . . Gas Welding and Cutting Apparatus, and Supplies . . . Arc Welders, Electrodes, and Accessories



Delco Distributors .

Continued from Page 81

No. 1912226) may be added or removed to vary the amount of movement as needed. This washer is .010 thick.

It is important to make sure that the vacuum control linkage fits freely on the connector bearing on the breaker plate. If it does not fit freely, it may be bent slightly until it does. Any thrust other than a horizontal one will interfere with the action of the breaker plate.

Illustrations Nos. 3 and 4 show the proper method of checking the tension of the breaker lever arm spring. It is important to maintain this tension within the manufacturer's specifications because excessive tension on this spring may tend to overcome the force of the spring washer on the post. A spring scale should be hooked to the breaker lever and the pull exerted at a 90 degree angle with the point surface. The reading should be made just as the points open.

To decrease excessive spring tension, pinch the spring carefully as shown in illustration No. 3. To increase tension, the breaker lever arm must be removed from the breaker plate and the spring bent away from the arm. New springs normally are stronger than required in service. Be sure to check the spring tension of all new levers when they are installed.

The movable and support plates are not serviced separately. If either part should become seriously worn or damaged it is necessary to replace the entire breaker plate assembly.

To disassemble the center-bearing breaker plate, release the C-shaped stop washer, and remove the shim, spring washer, and bearing washer from the post on the movable plate. Remove the retainer washer (or washers) from the center bearing, and separate the movable plate from the support plate. In doing so, be careful not to lose the small side spring (Delco-Remy part No. 1912228) out of its recess in the edge of the center hole in the support plate. Reassembly is the reverse of disassembly.

Properly lubricated and adjusted, the Delco-Remy center-bearing breaker plate can be depended on to deliver long-lasting, trouble-free ignition advance at all speeds and under all types of driving conditions.



Make V-8 valve grind jobs Pay Off

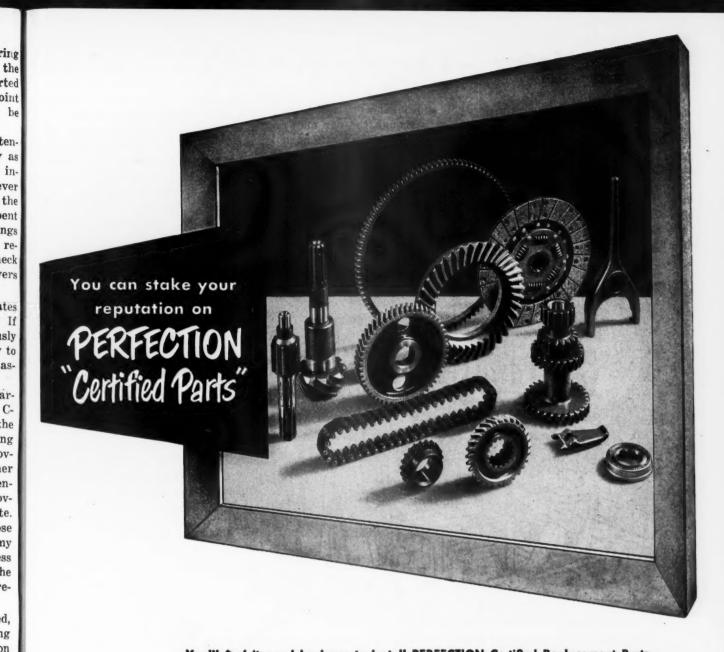
and Get a Double Profit by Installing

JOHNSON adjustable tappets





82



You'll find it good business to install PERFECTION Certified Replacement Parts. The low installation cost wins the favor of your customers, and the dependable performance of these products makes your customers real boosters for you.

Behind the parts constituting this great line are over 30 years of PERFECTION manufacturing achievement. This important "know-how", the use of the finest materials, heat treating under scientific control, precision accuracy and rigid inspections throughout production—all contribute to furthering the fine reputation accorded PERFECTION products.

There is a PERFECTION jobber near you. He carries a representative stock of these quality parts and is prepared to render prompt, efficient, friendly service. If you do not know his name, write us.



Perfection Gear Company Harvey, Illinois

PERFECTION PRODUCTS INCLUDE: Silent Timing Gears, Metal Timing Gears, Silent Timing Chains, Sprocket Gears, Transmission Gears and Parts, Differential Ring Gears and Pinions, Differential Cases and Parts, Fly Wheel Gears, Clutch Plates, Pressure Plates, Clutch Cover Assembly Parts, Clutch Forks and Parts, Clutch Throwout Bearings, Clutch Rebuilders.

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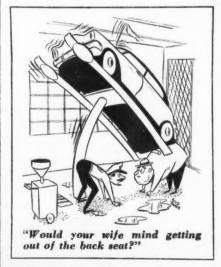
In pursuance of the same principle, Burrows Motors does not "pressure" service customers to buy additional service, parts and accessories. The service department is not given a commission on sales, since that might lead to high-pressure selling, Mr. Elam believes. Service men are specifically instructed not to try to sell

such additional work and materials even though the car may actually need it. If the owner cannot afford to have it done, he will only be embarrassed by sales arguments.

Should unanticipated trouble be exposed in the course of a repair job, the additional work is not performed without the customer's specific approval. The saving to the customer is pointed out if he has the job done while the car is torn down. Beyond that, no effort is made to sell the extra work.

Estimates to the customer of the cost of a specific job are not just a vague guess, Mr. Elam points out; they constitute a guarantee that that will be the price which will be charged for the completed work. The customer signs the work order when he leaves the car, and when he gets it. The purpose of the first is to make sure that he knows what the cost will be; the second, to enable the firm to immediately settle any possible complaint.

Burrows Motor does sell the "extras," and successfully. With each lubrication job, for example, an inspection sheet is filled out covering 64 items which are common annoyances when they do not function properly. The sheet is presented to the customer, but again, no sales arguments are used to persuade him to have the needed items repaired. Neverthelss, the firm has found that owners order 85 per cent of these needed "plus items" listed on their inspection sheets.



The firm's policy on complaints is based on the premise that the customer is always right. They follow the policy that every complaint filed by a customer must be settled by sundown. Even though it may be ultimately settled to the customer's satisfaction, a complaint that is adjusted only after prolonged haggling leaves a resi-

(Continued on page 86)



Exclusive Core Credit Policy





Black & Decker No. 6 Production Driver is a superlative tool for shops handling valve reconditioning on a continuous production basis.

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Black & Decker Stone
Dressing Stands are
made in standard and
heavy-duty(shown) styles
for accurate dressing of
Vibro-Centric seat grinding stones.

Black & Decker Vibro-Centric Kits come in 4 assortments for cars and trucks, in 12 assortments for tractors.





The best equipped shops get the business . . . and in valve seat grinding that means Black & Decker Vibro-Centric Drivers! These speedy, accurate, foolproof tools combine concentric grinding that insures correct alignment and a mirror finish . . . with a vibrating action that reduces stone wear and prevents stone loading.

Result: You turn out factory-accurate work that gets and holds customers. And you turn it out faster . . . only a few seconds per seat . . . to make every job pay off in extra profits!

See your nearby Black & Decker Distributor for a full demonstration of Vibro-Centric's many features . . . unmatched in the industry. See the big selection of Drivers and Kits that gives you the right selection for every type of work. Write today for free catalog to: The Black & Decker Mfg. Co., 627 Pennsylvania Ave., Towson 4, Md.

"Trade Mark Reg. U. S. Pat. Off.





up my position as personnel director of my father's factory. Of course I had security . . . but I wanted more than that. I had enough faith in the future and in my capabilities

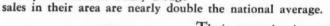
"I teamed up with a boyhood pal...a Navy veteran. We wanted a car dealership," says Charlie, "because we felt that motor vehicles were essential to our way of life. We'd both had some experience as part time salesmen and were familiar with

engines and service. There were no dealerships available so we bought into a service garage."

to strike out on my own.

When a car dealership was offered them, Charlie and Harold jumped at the chance to prove their abilities in the sales end of the business. Under their energetic supervision, sales climbed.

Then a Dodge dealership became available and factory officials awarded it to them on the basis of their previous sales record. Since then the partners have justified the factory's confidence. Today Dodge sales in their area are nearly doubted.



Their organization now provides employment for more than fifty of their town's families and their civic contributions make good reading week after week in local papers.

"It's a wonderful business," Charlie says. "Hard work? Yes, but it's opportunity unlimited. A good product—reliable service to customer and community—dependable used cars—a warm welcome to every customer—that's our business formula."





Chrysler Corporation
PLYMOUTH • DODGE • DESOTO • CHRYSLER • DODGE "Job-Rated" TRUCKS
Fine Cars of Great Value

Burrows

Continued from Page 84

due of ill-will toward the firm. Burrows' service manager is given full authority to settle all but the unusual complaints involving a considerable amount of money. His job is considered as primarily a public relations function, and he is selected with that requirement in mind. The service manager's office is located just off the service floor adjoining the cashier's window, for convenience and speed in adjusting complaints.

In general, the firm's policy is to be liberal in such adjustments. In cases involving small amounts, the complaint is almost always adjusted in favor of the customer. This policy actually saves money by saving the time of departmental managers. If a large amount is involved, every effort is made to arrive at a fair adjustment.

In one case, the firm installed a rebuilt engine without charge in a used car purchased from them. There were unusual circumstances involved, which reflected on neither the company nor the customer; but it turned out to be good business to make the adjustment.

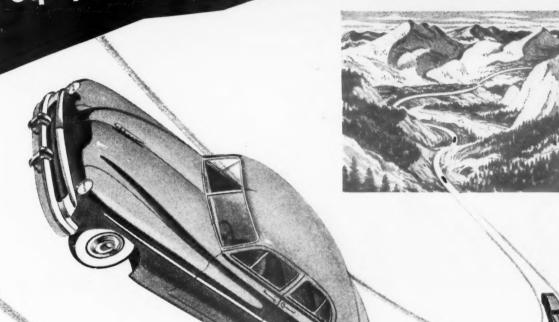
Their service policy naturally leads to sales of both new and used cars by retaining old customers and acquiring new ones. About 60 per cent of all used car sales are made to repeat customers. Some have bought as many as six or more used cars from Burrows Motor over a period of years.

Both sales and shop efficiency are being further improved as a result of the building of a modern new plant. The exterior permits display of new cars to advantage. The show room is placed on the corner, with floor to ceiling windows.

There are two main service rooms totaling 35,700 square feet. The larger of the two rooms is used for receiving, and for lighter mechanical work. Work was planned here, "to bring the mechanic to the car." A feature of

(Continued on page 90)

FIRST 10 CARS in Mobilgas Economy Run equipped with B-W OVERDRIVE!



igured on a straight miles-per-gallon basis, the best records in the 1415-mile Mobilgas Economy Run for 1952 were made by 10 stock automobiles equipped with B-W Overdrive. On a ton-mile basis, the grand sweepstakes winner every year from the start of this annual contest supervised by the AAA has been equipped with this famous B-W transmission unit. Offered on many leading makes of cars, B-W Overdrive cuts engine revolutions 30% . . . gives up to 3 miles "free" in every 10.

Made by B-W's Warner Gear Division, B-W Overdrive is an outstanding example of Borg-Warner's "design it better, make it better" policy . . . typical of the advanced engineering and precision production with which Borg-Warner serves the automotive industry.

B-W engineering makes it work B-W production makes it available

Almost every American benefits every day from the 185 products made by BORG-WARNER



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THESE UNITS FORM BORG-WARNER, Executive Offices, Chicago: BORG & BECK BORG-WARNER INTERNATIONAL . BORG-WARNER SERVICE PARTS . CALUMET STEEL DETROIT GEAR . DETROIT VAPOR STOVE . FRANKLIN STEEL . INGERSOLL PRODUCTS INGERSOLL STEEL . LONG MANUFACTURING . LONG MANUFACTURING CO., LTD. . MARBON MARVEL-SCHEBLER PRODUCTS . MECHANICS UNIVERSAL JOINT . MORSE CHAIN MORSE CHAIN CO., LTD. . NORGE . NORGE-HEAT . PESCO PRODUCTS . ROCKFORD CLUTCH SPRING DIVISION . WARNER AUTOMOTIVE PARTS . WARNER GEAR . WARNER GEAR CO., LTD.



"The longer I handle the Auto-Lite line, the more I'm sure Auto-Lite is best. They offer me an active advertising program, a huge ready-made market, and a sales leader in the Resistor type plug. You can't match that combination!"

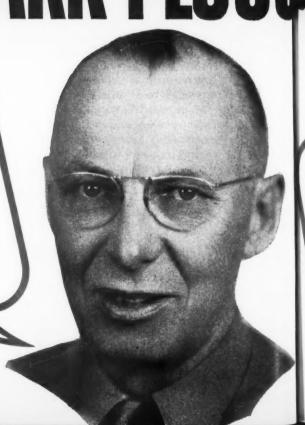
CHARLES B. WATSON

George St. and Deer Park Ave., Babylon, New York

Dealers agree..."AUTO-LITE SPARK PLUGS

"Auto-Lite's advertising is really paying
off. More and more car owners are asking for Auto-Lite Spark Plugs... and with
ing for Auto-Lite I can make every sale,
my complete line I can make every
no matter what make of car it is."

HENRY W. STARK
199 West 5th St., St. Paul, Minn.





"I'm carrying the Auto-Lite Spark Plug line today because I want a line that helps promote my sales. With programs like 'Suspense' on radio and television, and all those magazine ads, Auto-Lite is giving us the best advertising support we have CLARENCE WINTERS ever had."

18118 Wyoming, Detroit 21, Mich.

for the best deal!

"The Auto-Lite line of spark plugs is the complete line for my money. I can sell all my customers when they need new spark plugs and know they will be completely satisfied with Auto-Lite and with my service. This means more customers and A. C. BENNETT more sales."

2183 Young Ave., Memphis, Tenn.





Burrows Motors

Continued from Page 86

this room is the drain which runs most of the length of the floor, with floors sloping toward the center to provide run-off. It enables the floor to be cleaned rapidly with pressure hose, thereby promoting shop cleanliness. In the winter, cars with snow on them can be left over the drain until the snow has melted.

The smaller service shop is for heavier mechanical work, requiring heavy equipment.

Over 8000 parts are handled in the parts room, stock being maintained by perpetual inventory. Parts are dispensed over a counter in the show room to retail customers, and over a counter opening onto the service floor, for mechanics. A third counter for independent repair shop owners and others buying on a jobbing basis, is placed at the rear of the department.

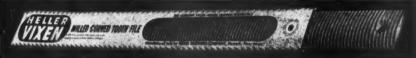
Service employes are provided with a locker room and lavatory just off the main service floor. A stairway leads to a small mezzanine balcony room overlooking the floor. The room is equipped with tables and chairs and facilities for making coffee, including a sink. Comfortable facilities of this sort are one reason for the good employe relations which the firm enjoys.

Education of both sales and service personnel is expedited by showing of sound films in a conference and projection room located off the show room floor. For flexibility, this has been divided into two medium size rooms separated by a sliding partition. For small groups, the partition is closed. For larger ones the partition is opened, allowing the film to be seen from any part of the two rooms. Training films for mechanics, or sales films showing points of the new models for the sales force, are frequently shown. The rooms can also be used for conference.

The sound and projection equipment is set up in a permanent location behind an opening in the rear partition. Since the equipment is quite bulky and requires time to set up, this arrangement insures that it will be used regularly. Otherwise it might be too "convenient" to pass up an interesting film.







No. 3 of course! Your customers, too, will smile all over when they get a flawless body and fender job that has been finished with a "VIXEN" file.

Because of the superior cutting power of its uniform, deep, curved teeth, a "VIXEN" shears welds and high spots almost like a plane. Nonclogging, it won't load or fill. That means no scratching, no wire edges, no hollow centers. Surface is left with a bright, smooth, sleek finish, with that wonderful "like new" look.

See your jobber for the shapes and cuts you need,

HELLER BROTHERS COMPANY



A New Jersey Corporation
America's Oldest File Manufacturer
NEWCOMERSTOWN, OHIO

Easy to Identify "VIXEN" By the White Envelope

For your own protection against imitations, look for "VIXENS" in factory-sealed white envelopes, packaged in a white carton.



Handy holder easily curves "VIXEN" to fit surface. Only a "VIXEN" can be resharpened again and again.







WRITE for free Weatherhead catalog, No. J-103-L, "Original Equipment Automotive Parts". Address: THE WEATHERHEAD COMPANY, Dept. D, 300 E. 131st Street, Cleveland 8, Ohio.

In Canada, The Weatherhead Company of Canada, Ltd.,

St. Thomas, Ontario.

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The Wine to handle is...



For further information use postcard on page 57

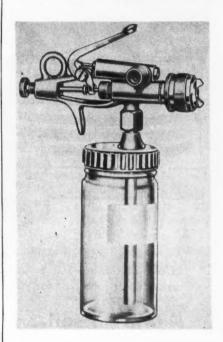
place by two clamps and has an air space between it and the tail pipe to prevent overheating and rusting of the tail pipe.

270. Brake Lining Deal

World Bestos: A program has been announced which enables dealers and repair shops to receive free merchandising premiums with each purchase of a specified number of World Bestos brake lining sets. With each order for 25 sets of linings, the customer receives a creeper. With each order for 20 sets a combination mechanic's seat and tool tray is offered. With the purchase of any 12 sets, the customer receives a windproof cigarette lighter engraved with his signature. Any one or all of the premiums can be obtained as many times as desired, the manufacturer states, and orders do not have to add up to any specific amount of money.

271. Spray Gun

DeVilbiss Company: A new spray gun especially designed for applying chrome protective solutions to automobiles and trucks is being produced by DeVilbiss. Known as the Type P-CV, it is



said to give a precision spray pattern and to have a sensitive trigger control. Protective solutions on moldings, name plates and ornaments can generally be made without masking, due to the ability of the spray pattern to be narrowed down to a fine line.

272. Can Cutter

James H. Borland Machine Co.: The Smart-Tool "One Shot" can cutter shears both ends of an empty can and bends the ends inwards with one pull of the handle. The can is then ready to be flattened. The manufacturer states that in this flattened condition, cans may be sold for metal salvage more readily and at the same time there is less space consumed in a pile up of used cans.

(Continued on page 95)

GENERATE Sales REGULATE Inventory THIS Profitable WAY





Most every car can be handled with this "3 for ALL" Generator Regulator Kit! It's complete with replacement data and installation instructions in a shipping container that converts to an attractive counter display. Use it to keep service sales UP and inventory DOWN.

The progressively improved performance of American Bosch Generator Regulators has been demonstrated in millions of these precision units used as original equipment. Here's the best Regulator money can buy-longer life and more permanent stability-yet priced right for replacement volume. Ask your Jobber about the "3 for ALL" KIT. American Bosch Corporation, Springfield 7, Massachusetts.

















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5 Ways to SELL MORE...MAKE MORE on Seat Covers

Rankin

If you want to really cash-in on the multi-million dollar seat cover market, this amazing Rankin setup will give your customers more for their money — and give YOU more sales. Here are 5 sensational seat cover values that give you far more to sell . . . popular price, exciting beauty, smart styling, top quality fabrics, superb fit. Models for every car . . . amazing custom tailored covers at no more than the price of ordinary covers . . . and smooth, snug semi-tailoreds priced unbelievably low. Terrific values that put you way out in front of competition . . . make you seat cover headquarters for more sales, faster turnover, bigger seat cover profits than ever before. Send coupon today for the full profit facts and full details.

Check These 5 Big Reasons Why 18,000 Dealers Have Switched To RANKIN!

Choose the models that fit your business, your community. Then, write today . . . now, for the money-making facts on Rankin's bigger profit plan for you.



Cedar Falls, Iowa • Wichita Falls, Texas Berkeley, California

MAIL COUPON TODAY

Rankin Manufacturing Co. Cedar Falls, lowa Rush me full information on	Dept. MA
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Sell Miracle, Power to Increase



Treats the Engine Not the Oil

PREVENTS "Engine Ulcers"...



sed in oil and gas, Miracle Power reulates in car engines, forms a reathlike, lubricating film of collidal synthetic graphite on all tal surfaces. This film helps oil aintain a better compression al. Result: Increased power and ep. Check your customer's compession before and after using liracle Power. Let them see for temselves how Miracle Power approves performance.

Miracle Power Division
HE PARTS CORPORATION
1539 AP Building • TOLEDO 1, OHIO
Infacturers of: MUFFLERS • PIPES • MIRACLE POWER • dgf 123



New Products

Continued from Page 92

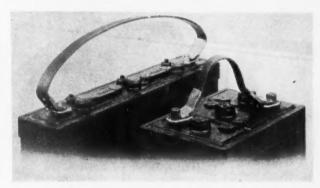
For further information use postcard on page 57

273. Door Lock Shims

Champ-Items, Inc.: The No. 479-Card Champ-Items rotary door lock lug shim for Chrysler product cars is now available on a display card. The lock lug shim holds the door tight eliminating rattles which occur because of latch wear. It is made of spring steel of the proper thickness for take-up action.

274. Battery Lifter

Roberts Automotive Specialties: A new type of battery lifter which is designed for easy application and is said to be positive in action is now on the



market. The manufacturer states that his device which is made from 3-ply folded edge belting is easily removed after the battery is installed.

275. Hydraulic Tappet

Johnson Products, Inc.: The Johnson hydraulic tappet, which is standard equipment and available for replacement on the 1952 Lincoln V-8 engine, uses a flat disc valve backed by a light spring, these elements being confined in a sheet metal cage. It is said to eliminate the need for close regulation of lift and produces fast action. The tappet has two holes at the top of the body to facilitate easy removal and plungers are selectively fitted in the tappet bodies.

276. Door Handle Tool

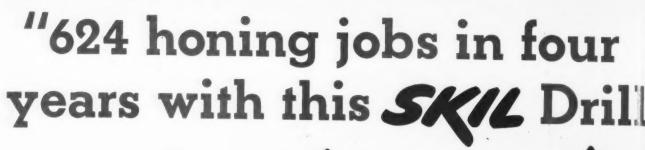
Herbrand Tools: A door handle tool for removing the handle retaining pin or snap-on ring on the iside car door or window lifts is available from Herbrand Tools. It is said to cover all makes of cars including current General Motors and late '51 Fords.

277. Inspection Process

Met-L-Chek Company: Met-L-Chek is a process designed to check cracks, pores and other defects in all types of metal parts. It makes use of a dye and a developer. The parts are swabbed with highly penetrant red dye solution and then the surface dye is washed away with water. Then the parts are swabbed with developer which draws the dye from the cracks. The dye leaves a vivid red stain around the area of the flaw, making it readily visible.

(Continued on page 98)

952



years with this SKIL Drill

That's performance!"

—says Joe Anderson, DIVISION TIRE AND AUTO PARTS, INC.

Buffalo, New York

"We use this Model 80 SKIL Drill on all sizes of motors up to and including a 5-inch cylinder size," says mechanic Anderson. "This is hard work for a standard duty drill, but after four years steady use and 624 honing jobs, this drill performs like new. We can always depend on SKIL performance!"



Drills. Model 80—Standard duty. 1/2" capacity. Compact design for use in restricted space. One of 26 models with full range of speeds from 250 to 5,000 r.p.m. Complete range of capacities.

Here mechanic Joe Anderson is using a four-year-old SKIL Valve Refacer in the reconditioning department of this firm specializing in servicing the trucks of commercial fleet operators.

SPEED WORK WITH THE WORLD'S MOST DEPENDABLE
AUTOMOTIVE TOOLS. CALL YOUR SKIL
JOBBER TODAY FOR COMPLETE INFORMATION



Polisher. Model 570. Four times faster than hand polishing. Easily operated. Easily handled. Light weight. Full-size 7" pad.



Bench Grinders. Seven sturdy models meet exact requirements. All models have ball bearing construction, removable wheel guards, and heavy base for stability. Sizes range from 6-inch, 1/4 h.p. to 10-inch, 1 h.p.



Valve Seat Grinders. Model 318—Standard duty. Light weight. Cool running. 45° angle drive permits easy work in confined spaces. One-hand balance. Trigger switch with locking pin for continuous grinding. Heavy duty seat grinders also available.



Disc Sander. Model 551. New low-priced tool amply powered for regular use. Perfect balance. Full-size 7" disc. Other models for specific duties.



Valve Refacer. Grinds valves, valve stems, and rocker arms. For wet or dry operation. Two motors. Standard equipment includes all the "extras"; micrometer butt grinding attachment, depth gauge, built-in coolant system, etc.



SKIL Drill—Model 45. Compact ¼" Standard Duty drill. Capacity 0" to ¼" in steel; 0" to ½" in hardwood. No-load speed: 1800 r.p.m. Overall length: 65%". Weight: 3 pounds.



SKIL Products are made only by SKILSAW, Inc. 5033 Elston Avenue, Chicago 30, Illinois

SKILSAW factory branches in 34 principal cities. In Canada: Skiltools, Ltd., 3601 Dundas Street West Toronto 9, Ontario For further information use postcard on page 57

278. Temperature Gage

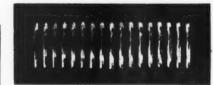
Instrument Division of Stewart-Warner: A differential temperature gage designed to warn drivers of heavy-duty trucks of overheated differentials has been introduced. The gage allows the driver to keep a constant check on the temperature of the oil in

the differential, enabling him to stop and inspect his truck before the temperature rises above the manufacturer's recommended maximum.

The sending device of the assembly is mounted in a hole drilled and tapped in the differential housing below the filler plug. The temperature gage is mounted on the dash and connected to the sender and electrical system by wire leads. The sender actuates the gage on the dash and shows the driver the temperature of the oil in the differential.

279. Replacement Grille

General Grille Company: A stainless steel replacement grille for 1952 Buicks has been announced by General Grille Com-



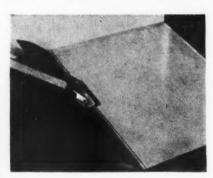
pany. The firm claims that the grille is more weather and rust resistant than any other finish offered today. The stampings are made from stainless steel reinforced throughout and double spot welded. It is available in a model to fit the Super, Roadmaster and Special series.

280. Puller Set

Plomb Tool Company: Development of a Proto Master Puller Set, which includes a new type of storage rack, has been announced by Plomb Tool Company. This set, designated as the "Pullermart," is mounted by individual parts on the rack in "exploded" fashion. Parts are clearly labeled and located in proper order for assembly, to make easy the selection of parts for any desired set-up.

281. Floor Paint

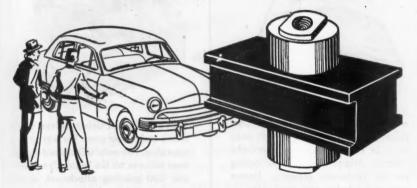
Mico Products Co.: The "Jiffy" tool makes concrete floor painting easier and provides a smooth job, the manufacturer states. It consists of a specially designed wedge



(Continued on page 100)

בונועפונו זפופונו

assume greater importance in modern motor car performance



Motor Mounts are an increasingly important factor in keeping today's highpowered engines running smoothly. A faulty motor mount can cause serious trouble and prevent the motor from functioning properly.

Recommend ARMOR-FLEX Motor Mounts

Armor-Flex Motor Mounts are made to original equipment specifications. They're brass-plated—assuring permanent adhesion between rubber and steel.



Doan MANUFACTURING CORP.

make the most of "Safety Month"!

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do Buick brake jobs v

FACTORY ENGINEERED

BEST QUALITY... long wearing, special oversize linings or shoe sets available.

LEAST TROUBLE ... riveted linings go on without expensive tools.

TRADE DISCOUNT and FRIENDLY TECHNICAL ADVICE . . . just ask at your Buick dealer's OVERHAUL KITS . . . all in one handy kit for you.

for any information you need.

ENGINEER APPROVED ACCESSORIES



FACTORY ENGINEERED PARTS

SEE YOUR BUICK DEALER

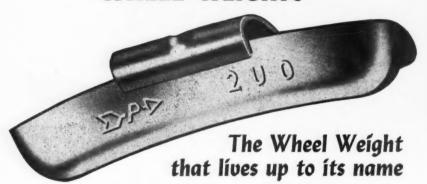


·Where

BALANCE

is needed!





● "U" TYPE

A favorite in the industry. Fits ALL rims having factory trim rings except late model Cadillacs.

• "C" TYPE

The "C" type weight (new style) in six sizes will give most satisfactory results on passenger cars with "K" or "L" type rims.

"SPECIAL" TYPE

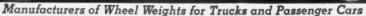
Made for late model Cadillacs with hub caps covering entire wheel, except 1951 model for which "C" type weight is recommended. 6 sizes.



PERFECT EQUIPMENT







New Products . .

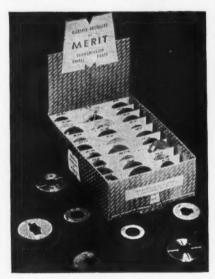
Continued from Page 98

For further information use postcard on page 57

shaped rubber pad 20 in. x 41/2 in. wide. It is operated with a 54-in. handle in push broom fashion. The paint is poured directly on the concrete floor and the paint tool spreads a thin layer into a smooth 20-in, swath. It permits painting to wall edges without smearing. The double-edged tool is reversible to double its life. It can be also used for washing and waxing floors.

282. Transmission Parts

Merit Products Company: Repairmen can now obtain individual small transmission parts without the purchase of an entire kit, according to an announcement by this firm. A new open stock assortment offers the most called-for



small transmission parts for all popular makes cars in one counter display assortment. There are 29 different parts to the assortment.

283. Safety Switch

R & C Mfg. Company: The master safety switch is a device which is connected to the battery circuit to disconnect the battery when the car is not in use. It disconnects all wiring circuits instantly, should a short occur during operation of the vehicle, eliminates battery seepage when the car is not in operation and makes a theft proof device when the switch is concealed.



CAR WASHERS . AIR HOSE REELS . SERVICE TOWERS . CEILING SWIVELS

Chilton's MOTOR AGE, MAY, 1952

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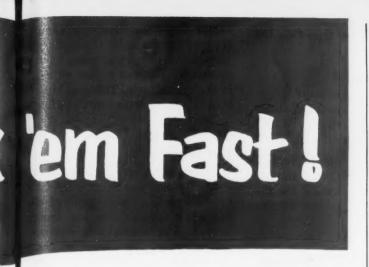
Find 'em Fast... Fix 's



AP

Leage Glotting

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AP Inspection Tags help
you find the 3 out of 10
cars that need muffler
and pipe replacements

Second AP Muffler Remover
Tools reduce take-off
time to minutes

Third AP fit assures quick installation

THE PARTS CORPORATION

1583 AP Building • TOLEDO 1, OHIO

Manufacturers of: MUFFLERS • PIPES • MIRACLE POWER • dgf 123



Chilton's MOTOR AGE, MAY, 1952

Clearing House

Continued from Page 61

Olds is Hard to Turn Over After Bearing Job

Please let me know why a 1946 Oldsmobile 8, after replacing the connecting rod bearings, was difficult to turn over. We've used two different sets of standard bearings and we still have the same trouble. Do you think it could be possible that the bearing caps might have been filed at some time?

Arthur Sidusky Sidusky's Garage West Pawlet, Vt.

ON your 1946 Oldsmobile which turns hard after replacing the connecting rod bearings, I'm inclined to believe that the caps must have been filed. What I would suggest doing, loosen the bearings one at a time, and it may only be one bearing that is making this engine tight. But if they are all tight, I would suggest adding shims.

High Speed Miss in Oldsmobile Engines

We are having some trouble in our shop with several Oldsmobile V-8 engines. After a few thousand miles of operation these engines develop a high speed "miss" and "fall off." On the floor, with the gas throttle held in wide-open position, the engine will, after initial acceleration burst, "die" to almost a fast idle speed, as though it were being choked. Upon sudden throttle closing and reopening there is a decided "miss" on reacceleration—when an upper cylinder lubricant is fed through the open throat of the carburetor during this operation, engine performance is smooth and normal.

Another difficulty is that we have had Hydra-Matic transmissions with a strange knock. With the selector lever in "high" position, and the gas throttle cracked just above idle (the brake applied) the "knock" appears. It is almost identical to a loose rod. By placing the selector lever in any other position or by increasing the engine speed while in the high position, the knock cannot be heard. Tests and operations of these units are completely normal in all other respects.

Preston E. Minton
Balboa Heights, Canal Zone

YOUR trouble on the Oldsmobile does not seem to exist here. I have not heard of any similar cases, although I have seen cars crack under a widen open throttle while out of gear. It isn't a good policy to run an engine like this as it is liable to blow apart. I think what you will find out there, it is definitely due to valve bounce, and an increase in the spring tension on them will take care of it.

The factory is not making any changes that we know of that would affect the above condition. As to the noise in the Hydra-Matic, with the lever in high position, it is possible that this noise could be coming from the front pump, but then again, I don't think it is chronic because I haven't heard of any cases here on the above noise.

(Continued on page 104)

Clearing House . .

• Continued from Page 103

Transmission Leak Presents a Problem

I have a 1951 GMC Suburban, series 100-122, which after 7000 miles developed a leaky seal (behind transmission allowing grease to run to the rear end). I had the seal replaced and still there is a loss of one pound of grease each 1000 miles.

What do you suggest?

A. Lee Sage A. Lee Sage & Son 5 Fern St. Monterey, Cal.

A SLIGHT amount of grease should leak from the transmission to provide lubrication for the universal, then the seal in the

torque tube should keep the grease from running back to the rear. To correct the leak, it is going to be necessary to install a new oil seal in the torque tube. This seal is behind the front drive shaft bushing.

Tried All the Cures, But Brakes Still Squeal

I recently relined the brakes on a P-17 Plymouth due to the wheel culinders leaking fluid. I replaced all the wheel cylinder cups and brake linings. The brakes hold and act perfect except that each time they are applied above 10 mph., the right rear brake lets out a terrific noise. Since then I have sanded the high spots until I have a 90 per cent or better contact. I tightened the backing plate bolts and also the spring clip bolts. Then I relined this pair of shoes again and cemented the lining before riveting. I reset the anchors with a brake shoe gage to .005-.010 at the heel and toe, checked the shoes for free movement on the anchors and also checked the axle bearing for excessive play. The drum is not scored, glazed or bell mouthed. I cut diagonal grooves in the lining using a 2-in, hack saw blade. I put the axle and drum between lathe centers. and the maximum runout is .004. I definitely pinned the noise to this wheel by using a floor jack and applying the brakes while in gear. None of the other brakes are noisy.

I also noticed when the axle was in the lathe center, using a dial gage behind the axle bearing, it was possible to deflect the axle as much (Continued on page 106)



PERFECTION IS HIS STANDARD...

Like you, he recognizes no compromise with perfection . . . accepts only one quality of materials, workmanship, tools. You gauge the work of others by your own rigid standard and are proud to have others measure up to it.

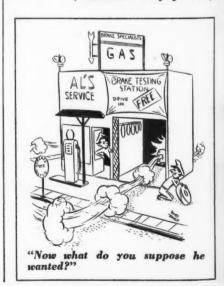
Bonney wrenches are made to the same standard of perfection. That is why mechanics call them America's finest—unmatched for lightness, strength, balance, and precision.

Bonney wrenches are the pride of the men who make them...the pride of the men who use them.



Perfection is the standard of the men who design and build America's Diesel engines . . . power plants carrying names like Baldwin, Cummins, American Locomotive, Fairbanks Morse, Hercules, Ingersoll-Rand, Worthington, General Electric, that set new standards of performance in automotive, railroad, marine, and industrial service.

BONNEY FORGE & TOOL WORKS . ALLENTOWN, PENNSYLVANIA





TEST PEDAL TRAVEL TO BOOST BRAKE ADJUSTMENT JOBS

May is Morar brake-check

Here's a good way to sell more brake adjustment jobs. When a customer comes in for service, suggest this test. Place a small block of wood $1\frac{1}{4}$ " thick under the brake pedal. Then depress the pedal. If it touches the test block, the brakes need attention.



2

FOR SAFER, SMOOTHER STOPS USE MOPAR BRAKE LININGS AND BRAKE PARTS

Genuine Chrysler Corporation Parts for Plymouth, Dodge, De Soto, Chrysler Cars, and Dodge "Job-Rated" Trucks.

You can be sure of safer, more dependable braking action with MoPar Cyclebond brake linings, master and wheel cylinders, brake hose, and other MoPar brake parts.

They're factory-engineered . . . factory-inspected . . . and supplied by Chrysler Motors Parts Corporation. Reason enough why they are your assurance of top quality and lasting satisfaction!

What's more, it's a cinch to get MoPar brake linings and brake parts—or any other MoPar parts and accessories—in a hurry! All you have to do is see your nearest Plymouth, Dodge, De Soto or Chrysler dealer.

Display this sign to let people know you recommend and install MoPar parts. For details, write Advertising Dept., Chrysler Motors Parts Corporation, Detroit 31, Michigan.



CHRYSLER MOTORS PARTS CORPORATION .

DETROIT, MICHIGAN

Clearing House Continued from Page 104

as .015 in. by a firm push and pull. Is it possible that this axle deflects or whips when the brake is applied setting up a drum vibration?

> Max Gruns Max's Garage Highland, N. Y.

 $\mathbf{Y}^{ ext{OU}}$ sure do have a problem with the rear brake squeal. I would

suggest that you adjust the axle shaft end play by removing the shims between the backing plate and the axle as from what you say the axle deflects and that would indicate that it is has too much play at that point.

Also, I would suggest installing a spring around this drum. That sometimes cuts down the vibration. A door spring is good to use for this. Last but not least I would try using a different make lining for a try. if these other measures do not correct your condition.

Installing Conventional Type Lifter on Lincoln

Where would be the place to block oil to the lifts on a Lincoln-12?

We have removed the hydraulic valve lifters and installed an open type Ford lift.

> LeRou Miller Piper City, Iowa

THIS can be done by either pinching the auxiliary oil lines together or by blocking them from the relief valve. These lines are located at the rear of the engine in the valve chamber directly above the oil pump.

How a Mislocated Chain Will Affect Timing

Would you please be kind enough to answer our question, "If a timing chain is installed with one tooth out of time will the car run?"

> Clarence Holes Chapmon's Service 6430 Woodland Avenue Cleveland, Ohio

NSTALLING a chain one tooth out of time will not stop an engine from running. It will, however, cause the engine to run poorly. If it is a tooth late, it will be sluggish and if it is a tooth early, it will ping.



SOUTH BEND

14" Drill Press for Better Drilling



OHILL READING

Shoe-type take-upprovides feath-

er-touch tension

and secure locking. Quill bearing is NOT split.

ADJUSTMENT

BELT TENSION RELEASE

Flip of lever removes tension from belt for easy speed changes. Proper belt tension maintained.

DEPTH GAUGE

Controls feed

depth, length of return stroke, or

locks spindle in

any position.

16th graduations.



FREE-FLOATING SPINDLE

Design prevents misalignment, side thrust and whip. Precision splines in spindle and sleeve.



Retracts quill instantly upon release of feed lever. Tension of spring adjustable.



BUILT-IN LIGHT Provides shielded, shadowless illumination on ork area. Independent on-off witch is built-in.



new DRILL PRESS MANUAL







FOUR PRECISION

BALL BEARINGS

Two on spindle, two on drive

sleeve. Pre-lubri-

TABLE LOCK

Double-plug binder securely locks table to column. Eliminates misalignment. Column bearing is NOT split.



drill in iron or steel. Drills to cen-ter of 14-1/4" circle.

CHUCK Capacity -0 to 1/2*

SPINDLE Drill chuck type supplied. 4" travel. CHUCK TO BASE DISTANCE Bench Model-17" Floor Model-46-1/2"

SPINDLE SPEEDS r. p. m.

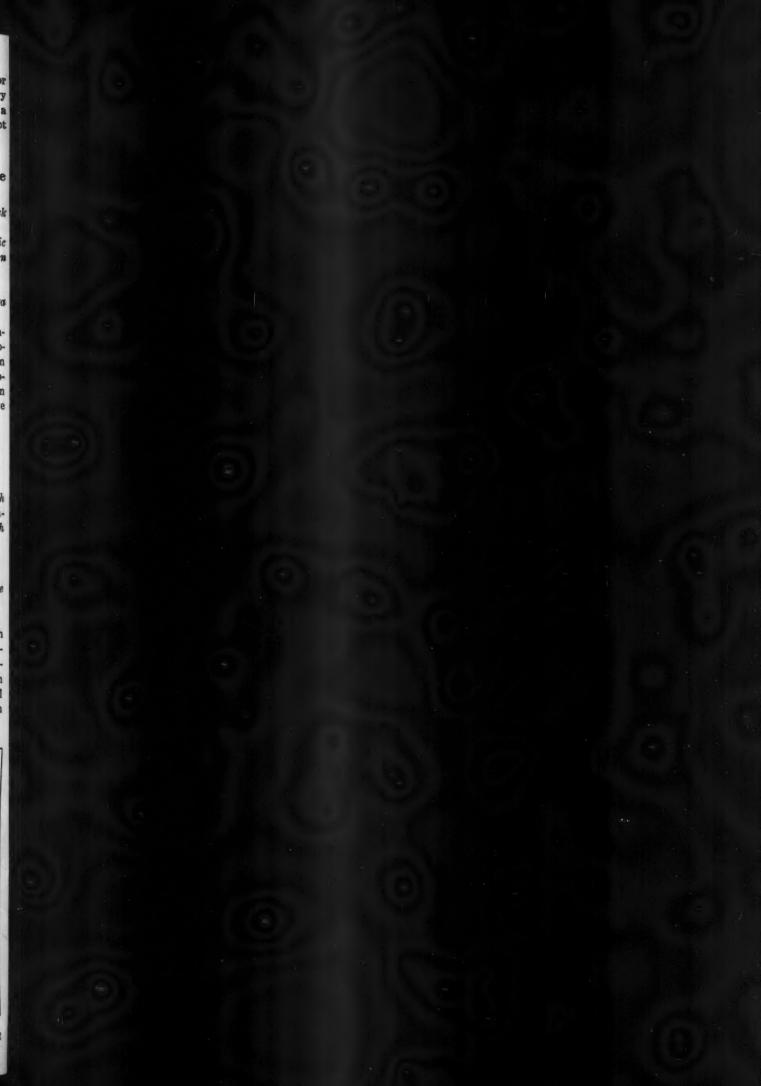
TABLE SIZE 10" x 10". Tilts to any angle.



Building Better Tools OUTH BEND LATHE

SOUTH BEND 22, INDIANA

Send information on— 14" DRILL PRESSES LATHE TOOLS AND ATTACHMENTS DRILL PRESS MANUAL (25c enclosed)	BENCH LATHES 9" and 10"	PRECI 10",13",	SION LATHES 1432", 16", 16/24"	7" BENCH SHAPER
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KELSEY-HAYES

Leads the New Car Trend to Low Pedal

DOWNER-BRAKE

BRAKE

THROTTLE

...for right or left foot with safer

Feather touch

Vacdraulic Control

More and more car manufacturers are following the new trend to power braking that permits the use of much lower, faster-acting types of brake pedals.

Kelsey-Hayes "Vacdraulic" power units, already standard equipment on over 200,000 passenger cars, provide the most advanced type of "feather-touch" control, assuring perfect "pedal feel" for safe, effortless, fast braking action by either right or left foot!

(Let Kelsey-Hayes engineers give you complete details of "Vacdraulic's" superiorities



ASSURES PROVEN PRODUCTS AT

KELSEY-HAYES
WHEEL COMPANY

DETROIT 32, MICHIGAN



PRODUCTS: Wheels—Hub and Drum Assemblies—Brakes—Vacuum Brake
Power Units—for Passenger Cars, Trucks, Buses—Electric Brakes for
House Trailers and Light Commercial Trailers—Wheels, Hubs,
Axles, Parts for Farm Implements.

PLANTS: Kelsey-Hayes Plants in Michigan (4); McKeesport, Pa.; Los Angeles, Calif.; Davenport, Iowa; Windsor, Ontario, Canada

Bacon Rind

Continued from Page 49

Somewhat elated but a bit bewildered at the news of an airconditioned building in this remote backward burro country where the roads are still mostly wagon trails and gas stations are nil, the driver proceeded up the dirt road following the directions of the young boy.

The dejected men wondered if it

was a joke when they arrived at their destination. There was no garage here-not even a building of any kind. All they saw was a small wooden shack and a windmill with piles of rusty automobile parts and frames strewn all over the ground. It appeared more like a junkyard, but yet it had to be the site as it was the only place

in the vicinity where there were any signs of activity.

However, the young boy's remarks at the Motel were not intended as a joke. What he really meant to say was that Eddie operated an open-air garage-just what it actually was; but like many Mexicans who have learned the English language sparsely from the tourist, he merely got a little mixed up in the correct usage of words.

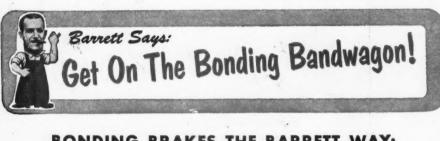
Eddie, a congenial unruffled middle aged man, listened to the knocking motor of their car for a few moments and remarked in perfect English: "Mister, your connecting rod bearing caps need rebabbitting. I can't rebabbitt them as I am all out of babbitt, but I can fix your car so that you can get back to San Diego without further damage to the motor."

And so through the hot afternoon and into the full moonlight Eddie Cannon worked on the car until he had the motor purring almost like a contented kitten.

As he had done in the past on numerous other repair jobs, Eddie dug into his bag of auto tricks to get this car running smoothly. In place of the babbitt, he used bacon rind, which he guaranteed would stay in the cap if the car was driven at a slow speed over the bump roads.

Improvising parts as Eddie had done in this case isn't anything new to him. Ever since he had worked as a truck driver and mechanic for the El Marmol Onyx Quarries, 200 miles south of his present home. Eddie had to rely

(Continued on page 110)



BONDING BRAKES THE BARRETT WAY:

♦ Adds To Brake Life

▼ Gives A Safety-Proved Bond

Is Easier And Faster **Earns More Profit**

The Top Money-Maker Of All Bonding Equipment Is Barrett's

9 Super-bonds new lining and de-bonds old lining at a rate up to 1 per minute!

 Adjusts instantly to various diameter shoes, 9" to 12". No hot anvils to change.

 No experience required. Any mechanic can do a perfect job.

· For bonding, requires no more current than a household electric iron.

 Four models available for every shop, large or small.

Do A Complete Sales Job With Barrett Bonding Equipment ... The Only Complete Line.

Ask Your Jobber

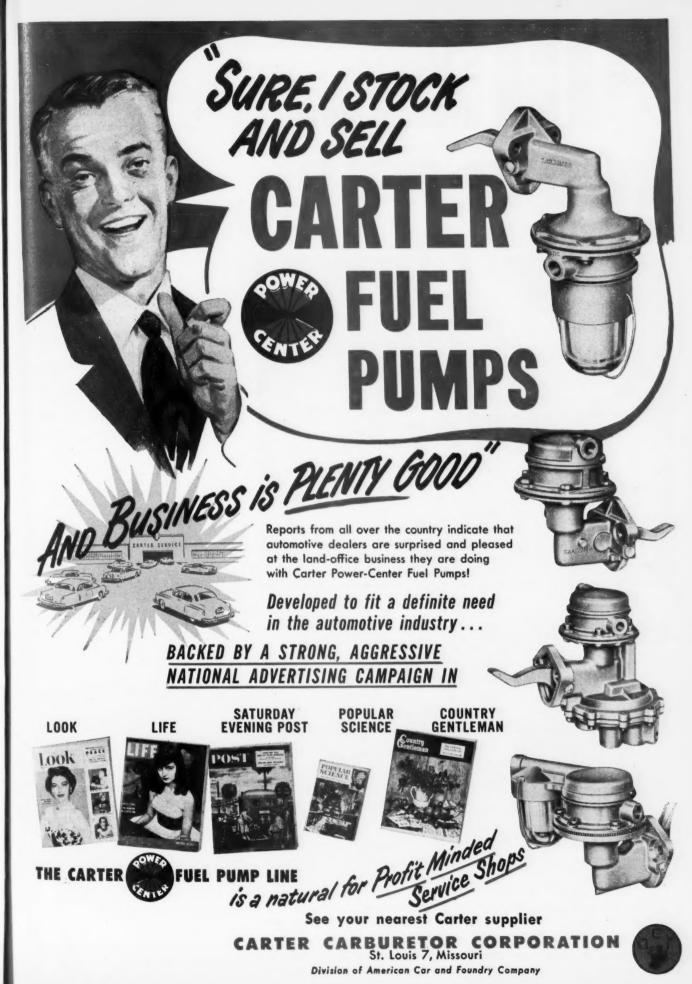
BARRETT EQUIPMENT CO.

The World's Finest Brake Service Equipment 21st and CASS AVENUE . ST. LOUIS 6, MISSOURI









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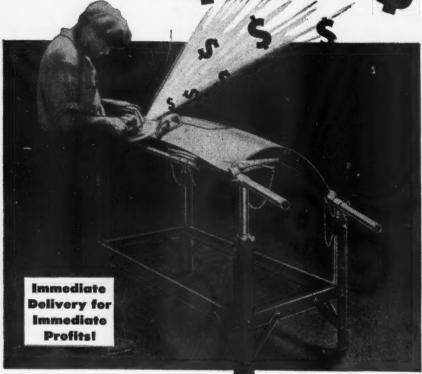
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\$111 00 makes you THOUSAND



slash metal rough-out time 50% with Reck-Rack



Handle any shape

Make any set-up in 90 seconds! 32 various flexible points of adjustment adapt Reck-Rack to rigidly hold any body section in the most convenient position. \$111 price subject to change without notice. Auxiliary bridge (for mounting "Porto-Power" ram) optional at extra cost.

Yes, sir! Only \$111 — and what a bargain! Reck-Rack does this tremendous profit job for you because with it you can easily repair body sections you used to scrap. Steps up output equal to the work of an extra man. Pays for itself fast — and over the years makes thousands of dollars for you. See your jobber — get Reck-Rack now and start making extra profits!

A product of Blackhawk Mfg. Co., Dept. R-652, Milwaukee 1, Wisconsin.

BLACKHAWK

PORTO-POWER . HYDRAULIC JACKS . WRENCHE

Bacon Rind . .

Continued from Page 108

upon his inventive genius and mechanical skill to keep the big trucks rolling. It was quite a task. too, as no toll cars could be called in an emergency. In fact, a breakdown on the narrow, ungraded dirt so-called highway where cars pass each other on the average of once a day, meant long hours of waiting and delay, so Eddie had to learn to be dexterous with the vehicles to keep them going when parts failed to function properly. The remarkable thing about Cannon was that he did all these masterful maneuvers without all the modern machinery and tools any ordinary gas station is expected to carry in the United States.

Although Eddie has an English family name, surprisingly he was born just a few miles from his present location at San Quentin,



"Just towsle his hair and give him a big hug and he'll fix it for nothing I know!"

once a prosperous flour mill community colonized by Britishers in the 80's. His father was one of its founders and his mother was a Mexican. After being reared and educated across the border in San Diego public schools where he studied the theory and fundamentals of automotive mechanics, Eddie returned to his homeland in Lower California and took the job with the Onyx Company.

In business for himself for the last 10 years, Eddie has employed all of his knowledge of his truck driving days on all the makes of cars which are pushed, towed, and even come into his yard under their own power in need of repairs. Like a Red Cross first aid worker, Eddie stops further damage by doctoring the trouble. Sometimes this means improvising parts from scraps of junk metal with a welding torch, and sometimes it even means manufacturing a part almost out of nothing.

For example, there was the Sunday a station wagon drove into the yard from a fishing jaunt near San Quentin. The car had a broken connecting rod and Eddie replaced it with one of his own design. This makeshift part enabled the pleased owner of the car to drive to Ensenada where he could purchase a replacement.

And then there was the afternoon when an old Ford drove into the yard from a 1000-mile trek from Cape San Lucas at the tip of the peninsula. The spare tire was useless and both rear tires had wide cuts in them which were consistently causing flats by pinching the tubes. On the right rear tire he put on what is known as a Mexican recap. This was done by cutting the inner rim off the spare tire and then placing it inside the worn-out rear tire. On the left rear beat-up tire, he put in a large boot made from an old tire and kept it from slipping by bolting it to the sides of the tire.

His rancher and farmhand neighbors call him the family car doctor as he is always going out on emergency calls to mend their tractors and trucks. And like a doctor he performs surgery on the machines to keep them running until parts arrive from San Diego by mail or the vehicle can be driven to a "car hospital" in Ensenada or Tiajuana. They boast that Eddie can match his auto mechanical skill with any of the boys in the United States no matter where the American place of business is located.

As one steady customer expressed it: "When Eddie takes over a car, you can be sure that it is in capable hands. In the seven years he has been working on my tractors and trucks, I have never seen him stymied yet."

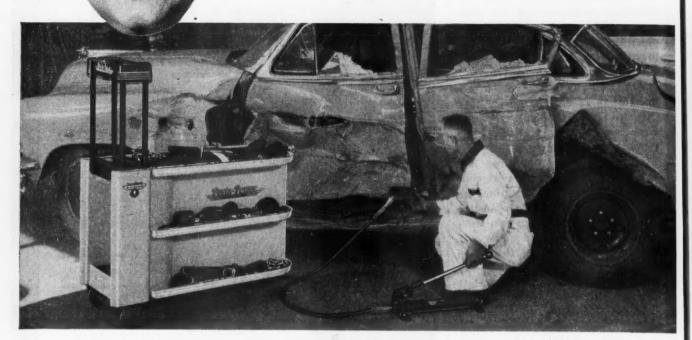
after 21 years, the S-4. STILL LEADS 'EM ALL



BLACKHAWK

A product of BLACKHAWK MFG. CO., Dept. J-652, Milwaukee 1, Wisconsin

Our body shop nets v we use the entire



"We couldn't handle major wrecks profitably without the entire 'Porto-Power' package!" And the key assortment in that "package" is the S-200 (above). It pays out fast in both small and big shops—on body jobs, auxiliary frame and axle service and repair work. Includes 4, 7 and 10-ton hydraulic rams, plus spreaders, attachments and a versatile press. A must for today's cars.

Only Blackhawk gives you a complete line of vital body equipment

HERE'S astounding profit in body work for shops equipped with the entire "Porto-Power" package, Leading insurance men report one of five car-repair claims exceeds \$250! And, whether it's big wrecks or wrinkled fenders - "Porto-Power" covers the field! You'll salvage more body sections . . . cut costs . . . make bigger profits. Save the time of valuable men and keep 'em happier on the job. Order today from your Blackhawk jobber.

in over 90% of all body shops

IF IT DOESN'T OFFER YOU ALL THIS . . . IT'S NOT A "PORTO-POWER"

- ☐ A full range of essential rams! Ability to PULL with FULL POWER!
- Easier handling . . . a single hose . . . revolving coupler . . . all-directional ram!
- ☐ Interchangeability of rams!
- Spreaders with built-in hydraulic rams!
- A complete line of body shop attachments!
- Specialized attachments for re-pair service.

whopping profits...because Porto-Power package!





out your essential package of "Porto-Power" equipment. And "Reck-Rack" slashes off-car metal rough-out time 50% by rigidly holding body sections.

> more true today than ever: there's no substitute for Parta-Power

> Body shop business is greater! And replacement body sections and body experts are scarce. That's why you need the best body shop equipment . . . why the great "Porto-Power" superiority is so important to your income. Make sure you have the complete "Porto-Power" package!

> "Porto-Power" is the exclusive (trademark registered) product of Blackhawk Mfg. Co.

BLACKHAWK

FOR FREE BO CLIP THIS COU AND MAIL TOI	PON	MACHANN Serio Source
BLACKHAWK MFG. C. Dept. P-652, Milweul Please rush your "Porto-Power" pac	kee 1, Wis.	on the complete
Name	****************	040+1100441105+104041104 0
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Address		***************************************
City	Zone	State

Steering Unsafe .

Continued from Page 43

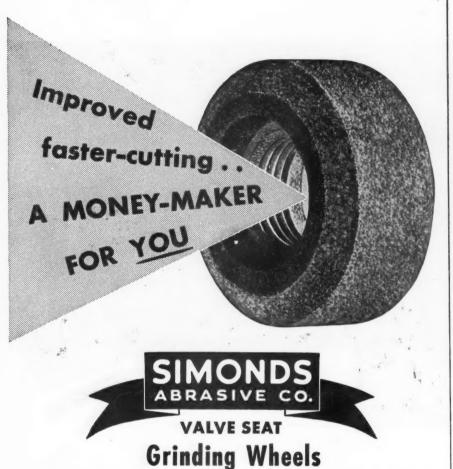
If the wheel moves in or out more than one-half inch, the king pins and/or bushings are worn excessively, and should be replaced. Condition of the upper and lower control arm bushings, both inner and outer, can be checked by watching for play when the wheel is shaken vigorously.

When any of the above men-

tioned front end parts are worn or twisted, proper alignment cannot be attained. Often a visual check of the front end and observance of the tire wear characteristics will disclose misalignment, but the majority of cases show up on a front end machine.

Safe driving is greatly dependent upon accurate wheel alignment, as this directly affects the steering characteristics of a car It is important that the car be test driven after a wheel alignment check in order that the mechanic can be sure that the car steers perfectly. Sometimes adjustments can be made so that the alignment reads to perfection, according to specifications, but some other unknown condition will cause the steering to be incorrect, so that the car pulls severely to one side or another, wanders, or in some other way behaves unsafely. The time required to make a thorough road test is well worth the mechanic's time in the satisfaction of knowing that the car is safe to drive.

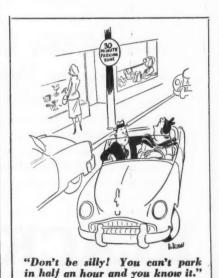
Shock absorbers play an important part in safety. It's the job of the shock absorbers to keep the wheel on the road over all types of pavement. When wheels are bouncing, they are not providing traction and they will often allow the car- to "skip" all over the road. This is especially dangerous on winding roads under fast driving conditions. Shocks should be checked frequently by bouncing the car up and down and by noting how quickly the car stops oscillating. If the car is pushed down, it should rebound past the starting point and then come to rest. If it continues to oscillate, one or more shock absorbers need refilling or replacement. Tubular shocks can be checked in a few minutes by removing the lower mounting nut and bushing and checking the action by hand.



Better business through better performance! It's yours with Simonds improved valve seat wheels...double service in faster, cooler, cleaner-cutting action in finishing and grinding valve seats of all types...even where inlet and outlet seats are of different metals. Wheel can be reversed and dressed when one side becomes worn. Dressing can be done safely during operation. Also available...Simonds new white wheel. Your jobber has these and other top quality wheels in Simonds

SIMONDS ABRASIVE COMPANY Tacony & Fraley Streets Philadelphia 37, Pa.

automotive line—the complete line for all grinders, all jobs.





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A new "FIRST" in service ...offered only by <u>DeVilbiss</u>



Rebuilt Exchange Service!

Saves time! Saves money! Eliminates costly delays for repairs for service! New DeVilbiss Rebuilt Exchange Service is another outstanding example of DeVilbiss leadership in service to customers. Read on . . .

What it is — The DeVilbiss Rebuilt Exchange Service enables you to replace worn DeVilbiss equipment with genuine, fully guaranteed, factory rebuilt units for a nominal exchange charge.

Advantages to you—(1) Delays for equipment repairs will be eliminated! (2) No need for you to tie up money or men in your own shop to handle repairs. (3)

Rebuilt units will be available thru local DeVilbiss outlets anywhere in the United States! (4) Losses due to shutdowns for repairs will be eliminated! (5) Rebuilt Exchange Units automatically include latest improvements in design.

What you do—This new service is currently being set up with your local DeVilbiss Jobber or Distributor. Contact him to turn in your worn DeVilbiss MBC 510 Spray Gun or Air Compressor (bare) for a genuine, fully guaranteed, factory rebuilt model for a nominal charge.

THE DEVILBISS COMPANY Toledo, Ohio

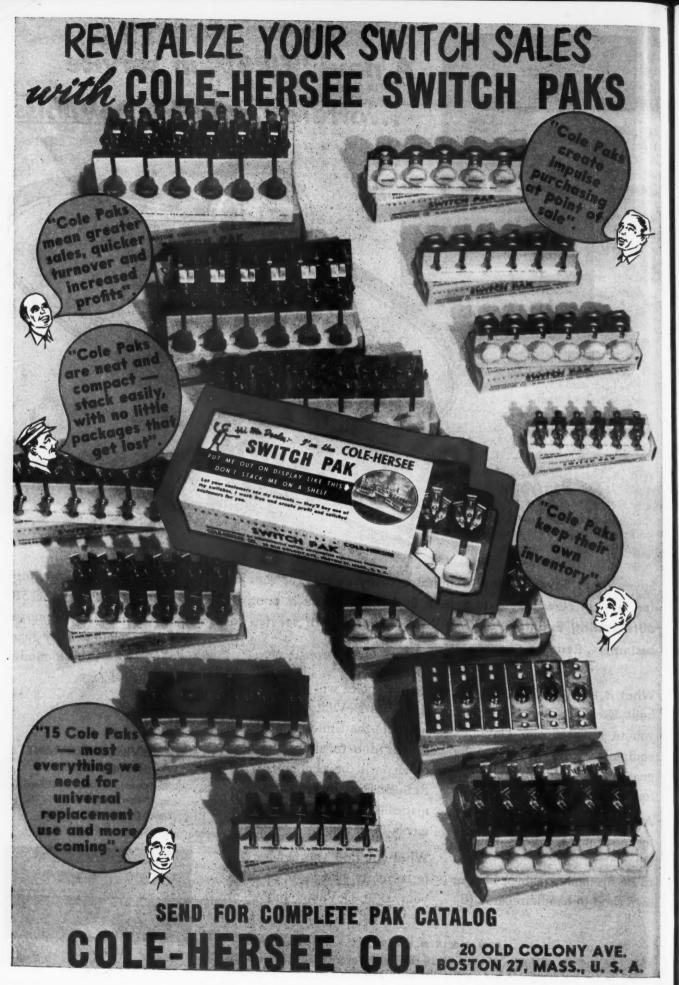
Windsor, Ontario • London, England Santa Clara, Calif. Branch Offices in Principal Cities

FOR BETTER SERVICE, BUY



GUARANTEE

DeVilbiss Rebuilt Exchange Equipment is completely overhauled and reconditioned to factory standards and carries the same guarantee as new equipment!



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Wheels Unsafe .

Continued from Page 44

will cause wheel tramp and shimmy, which is serious at high speeds. Also, this motion of the wheel causes rapid wear of the front end parts and might result in failure of one of the components of the steering or suspension system. It's a good idea to check for uneven tire wear on every car that comes into the shop. Misalignment can be detected by the appearance of a tire's tread pattern and the way it wears. A customer should be notified immediately when the condition of his tires indicates erratic tread patterns, and it should be corrected as quickly as possible. Periodic rotation of tires will, of course, do much to eliminate the uneven wear and cupping.



Another thing to look for on tires is weak points in the casing, either bulges, splits or cracks. A bruised casing may be satisfactory indefinitely so long as the car is being driven at low speeds in local driving, but when it is taken on a high speed trip in hot weather, the internal pressure which builds up may cause failure of the casing at the weak point and consequently a blow-out.

Balancing the wheels is a good safety service which takes very little time but produces customer satisfaction. Much of the cupping and shimmy which plagues the motorist through summer driving can be eliminated with proper wheel balancing.



NATIONAL Advertising Campaign!

Our National Advertising campaign in Collier's, SATUR-DAY EVENING POST, PATHFINDER, FARM JOURNAL, MECHANIX ILLUS-TRATED, POPULAR MECHANICS and POPULAR SCIENCE MONTHLY is creating a tremendously growing demand for Bowes Auto Polish.

You have to know that any polish which will give you more shine with less work will make you more friends and more profits. Get on the profit wagon . . . cash in on our national advertising which has produced a big and growing demand for this highly efficient product.



Here's another BIG PROFIT ITEM!

The Bowes Shine Cloth is also nationally advertised. Display it and you will cash in on the demand created by our national advertising.

It absorbs dust, leaves no film to gather more dust . . . and is also in great demand for home use. It's a big profit item.

BOWES "SEAL FAST" CORP., INDIANAPOLIS 7, IND.

idea to make certain that every person understands the rules and regulations on credit.

Some stores do this by printing these rules on the back of the duplicate credit application given the customer. Others do it with a personal letter sent to the customer after opening the account. This letter is designed to welcome the customer's account to the firm and then proceeds to explain credit rules point by point in order that there will be no misunderstandings.

"I'm also finding that it pays to be firm with new accounts today," another garage man declares, "if you are too generous in extending payment dates to a person using credit for the first time that individual may easily get the idea that you are an easy mark and when things get rough you will be the one who suffers and not the fellow of whom the debtor is just a little bit afraid of not paying."

Several garage owners hasten to advise that a bookkeeping system which gives day to day control of credit accounts is a must in these times. They also point out that posting of charges should all be finished on each day's business before the books are closed that day; thus one has accurate information on that score when the doors are opened the next morning.

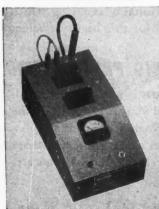
They also offer a good many additional suggestions, all based on their current experiences, and here are the 10 mentioned most frequently:

- 1. Obtain a signed application for the charge account.
- 2. Make sure information needed for possible later collection is given then and there and by all means secure names of nearest relatives of both husband and wife.
- 3. Have an agreed credit limit to protect both the firm and the customer.
- 4. Never hesitate to let the customer know when his or her account has grown too large.
- 5. Make it easy for the customer to pay an account.
- 6. Eliminate errors in bookkeeping for they cause bad feeling and are always costly.
- 7. Keep all personal feelings out of collection of accounts—"he's such a nice fellow" is far too often the very one that must later be written off as a bad account.

(Continued on page 120)



TRUCUT SHOP PRESS



TRUCUT ARMATURE TESTER

There's plenty of extra profit in starter-generator work . . . If your shop is equipped to handle it!

And you can handle it with these three TRUCUT tools . . . all tried and tested . . . all designed especially for automotive repair jobs! With them, you can machine and undercut commutators perfectly; test for shorts, open circuits, and grounds; make quick, easy work of dismantling and assembling generators. The TRUCUT Press is also useful on dozens of other jobs around your shop.

This TRUCUT package actually pays for itself in an amazingly short time. Enables you to handle work you are now sending out . . . or helps you to do it more quickly and profitably! Write for free details and catalog M-5, today.

FRANK N. WOOD CO.

144 W. Main Street e Waukesha, Wisconsin Pacific Coast Address 1330 W. Olympic Bivd., Los Angeles 16, Calif





NOTE TO ALL MECHANICS: When you invest in the Hand Tools you depend on for your livelihood, ask your Jobber about the famous New Britain brand. It's the complete Line of quality for every automotive Hand Tool need.

As long as I can get Tools like these, I'll add a little sweat myself, and keep pulling the PRIZE out of this word – Enterprise. It's not for FREE, but it's MINE. Let's keep our American system – and work to make it better.



Men Britain

GREATER STRENGTH . BETTER FIT

THE NEW BRITAIN MACHINE CO. . NEW BRITAIN, CONN.

Credit Policies

Continued from Page 118

8. Check items as they are charged at the time of purchase with the customer.

9. Be careful of the one you hire to collect overdue accounts; the wrong kind of collection agency can often ruin a good account in temporary distress by brow beating.

10. Be constantly on guard for bookkeeping mistakes and particu-

larly in handling returned goods items, for there it has been found, is one of the sources of most mistakes in charge account bookkeeping.

Caution is also being expressed today in permitting the customer to charge and take with them merchandise or services purchased at the time the application is made. Most experienced garage owners recommend that this be definitely discouraged except where very small amounts are involved.

They also advise a close study of the legal aspects of credit and an understanding of local and state laws governing its use. There are a good many general legal controls in force everywhere and a few of these should be particularly noted. Those suggested most often by experienced credit men are:

(a) A wife cannot buy and have the husband held responsible if the purchases are extravagant and beyond the necessities which the law imposes as his duty to supply his wife.

(b) Be most careful in handling credit to the wife who is living apart from her husband. If she leaves her husband and refuses to live with him because of his misconduct she may generally go out and pledge her husband's credit and he will be liable for necessities furnished to her. And where the husband is justified in not living with his wife the courts generally rule that he is not liable for any goods furnished to his wife.

(c) When a married woman purchases necessities for the family she personally cannot be held liable, even though she has money in her own name, except where the husband does give the wife sufficient cash to handle the necessities of the family.

(d) A contract made by a minor is not void, but is voidable at the coming of age of the minor. He can, however, at that time, be forced to pay the reasonable value of the goods, but not always the contract price.

(e) Generally, the parent can be held liable for a minor's charges, if they are in the nature of necessities, but not where that minor, for example, has become married and accordingly become legally emancipated.

The important thing today in granting credit to new accounts is not to feel safe and content with the old practices and principles; time changes all of these things and today's times have changed even our credit policies . . . indeed, it is time to take a new look at our personal credit policies!



Stock one model AUTOPULSE fuel pump and fit all cars!

When a motorist needs a fuel pump replacement late on Saturday night, he can't wait until Monday morning when the wholesalers are open. It's just like handing over the sale to your competitor when you tell the customer that you haven't got the right model to fit his car. You don't need to pass up this business. Use the simple Autopulse plan and service any car on the road with a minimum inventory. With this plan, you need stock only one Autopulse Electric Fuel Pump model with the necessary brackets and attachments, and the 12 mechanical fuel pumps which cover 75% of the entire pump replacement demand to service any car on the road. You can even service large trucks, for you can use the Autopulse singly, as a double or triplex, accord-

ice large trucks, for you can use the Autopulse singly, as a double or triplex, according to the engine H.P. Don't waste time and money with dead inventories — stock Autopulse and reduce your operating costs. See your Autopulse dealer today or write for complete information.



AUTOPULSE the heart of your motor

AUTOPULSE CORPORATION 218 E. Dowland St., Ludington, Mich.

The Race for Horsepower IS ON!

... and with it comes the most important development in muffler history

WALKER

recision

... a new generation of Walker "Individually Tuned" Silencers to meet the New and More Complex Exhaust Problems Created by the New Generation of Engines and Automobiles

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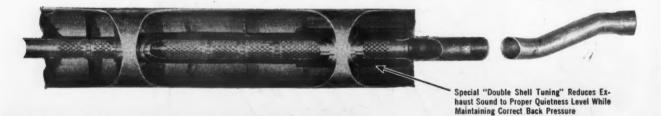


WALKER "Precision Tuning" is backed by the world's finest exhaust sound laboratory

In this new generation of engines and automobiles, the exhaust problem is an *integral part* of the overall problem of quiet, efficient, yet flashing performance. With a total of 71 years of accumulated experience, Walker's staff of

expert exhaust sound engineers, accomplish this difficult, complex quieting job—and at the same time, provide More Available Power, Less Back Pressure, More Traffic Get-Away and Less Noise.

THIS WALKER "PRECISION TUNED" SILENCER SUCCESSFULLY QUIETS 180 HORSEPOWER WITHOUT ROBBING ENGINE POWER



NOW MORE THAN EVER BEFORE...

Silencers

"Individual tuning".....
"PRECISION TUNING".....

HIGHER COMPRESSION RATIOS...
...TRAFFIC GET-AWAY...
QUIETER PERFORMANCE
PROBLEMS IN EXHAUST SYSTEM DESIGN



WALKER "Precision Tuning" SETS THE NEW STANDARD IN EXHAUST SYSTEMS AS AN INTEGRAL PART OF ENGINE DESIGN

♠ The race for horsepower is on! Today we stand on the threshold of a new generation of engines, born from the motoring public's demand for greater flexibility of performance... power on the hills... reserve "power-spurts" for passing... greater "traffic-getaway"... increased economy of operation... and for smoother, quieter performance.

The race for horsepower is on! And with it come Walker "Precision Tuned" Silencers to meet the many new and more complex exhaust problems. No longer can "yesterday's mufflers" meet even the minimum requirements of these new standards of car performance and engine design.

Walker "Precision Tuned" Silencers are specifically engineered to help make this new generation of automobiles the quietest, most efficient, most flexible, most economical motor vehicles in America's brilliant automotive history.

And for the millions of fine "other generation vehicles," Walker "Individually Tuned" Silencers offer the highest possible standard in exhaust system design and performance.

Only Walker gives you Exhaust Silencers to accurately meet the individual requirements of every vehicle—regardless of make, model

Now more than ever, Walker Silencers make the difference.

HERE'S WHY WALKER

"Precision Tuning"

WAS BORN

More Powerful Engines...
More Intense Explosions mean

- **√Heavier Power Notes**
- √Greater Tall Pipe Roughness
- √Greater Muffler Body and Exhaust Pipe Noise
- √Greater Volume of Exhaust Gases

More Automatic Operation and Increased Flexibility Through Automatic Transmissions mean

✓More Critical Power Note Peaks Through "Acceleration-to-Cruising" Range of Operation

Greater Economy...Quieter Smoother Ride mean

- √More Rigid Back Pressure Limitations
- ✓ More Rigid Acoustical Specifications

No longer can yesterday's mufflers meet even the minimum requirements of these new standards of car performance and engine design.

A NEW WALKER DUAL EXHAUST SYSTEM



Right Bank of Engine



Left Bank of Engine

make the difference

for the millions of fine cars now in service for the new generation of engines and cars



What Walker "Precision Tuning" means to the new generation of engines and automobiles

WALKER "INDIVIDUAL TUNING"

means to the millions of other fine vehicles in active service

• For the multitude of "other generation vehicles" which still are the major source of your exhaust system service business, Walker "Individually Tuned" Silencers offer the finest in exhaust system design and performance.

Now, as always, "Individual Tuning" preserves the full measure of performance which each engine is capable of delivering. By recognizing and respecting its back pressure standards, *I. T.* provides each engine's full available power, its traffic getaway, its flexibility. And through accurate and specific sound control, "Individual Tuning" protects the quietness and smoothness of ride for each individual make and model of car.

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But, improperly designed mufflers are horsepower thieves. An "old generation muffler" on a "new generation" engine may cause loss of power and performance, defeat economy of operation, create annoying noise peaks. So Walker—and only Walker—offers you "Individually Tuned" Silencers for the millions of vehicles now on the highways and "Precision Tuned" Silencers for the "new generation" of vehicles, now and to come. Today, more than ever, Walker Silencers make the difference.



Get into the MUFFLER MONEY with Walker Silencers

• Boost your business, increase your customer traffic, step up your profits—with exhaust system service. There's real money in mufflers. Worn out mufflers are easy to locate . . . easy to replace. They require no trained mechanics, no investment in special tools and equipment.

Look for exhaust system business every chance you get. Listen on the driveway for the tell-tale burbles and roars of those ailing, winter-weary mufflers. Check the exhaust system of every car that goes up on your lift. Make lubrication and exhaust system business your "daily double." Use it to absorb "dead time" around your station or shop.

Give it a chance to boost your business. From every angle the muffler business is one of your finest profit opportunities. Exhaust System Service means "PLUS" DOLLAR-VOLUME for you

			Annual Volume*
1	Exhaust	System	Sale per Week\$ 951.60
2			Sales per Week 1903.20
			Sales per Week 2854.80
			Sales per Week 3806.40
			Sales per Week 4758.00

YOU MAKE A "2-WAY" PROFIT on every Exhaust System Job

	Average Selling Price	Average	Average Profit
Silencer	\$9.00	\$5.80	\$3.20
Pipe and Clamps.	5.30	3.40	1.90
Labor*	4.00	2.00	2.00
	\$18.30	\$11.20	\$7.10

A gross profit of approximately 40% on an average \$18.30 sale.

*Based on an average \$4.00 flat rate labor charge—50/50 split.



WALKER MANUFACTURING CO. OF WISCONSIN • RACINE, WISCONSIN Serving the Automotive World—Exhaust Silencers • Jacks • Lifts • Oil Filters

Indianapolis Cars. Continued from Page 48

entries with modified Studebaker and Cadillac stock engines, and the two Novis will surely heighten interest in the race. All these and about 70 Meyer & Drake-powered cars will vie for the 33 starting positions in the "torture grind."

The U.S. racing cars this year tend to show a degree of standardization in certain design features. Almost exclusively, they have tubular frames with some variations. Halibrand magnesium wheels are replacing wire wheels on many cars. Quick-change rear axles and torsion bar suspensions are also common on most cars. This year 75 pct of the cars have aircraft spot brakes.

Again, the Meyer & Drake Offenhauser 270 cu in. model engines predominate. No changes appear in this engine since last year, except an improved crankshaft and the availability of forged aluminum pistons. Maximum horsepower remains at 325 hp at 5,000 rpm, with a compression ratio of 13.2, according to Leo Goossen, Meyer & Drake design engineer. The engines use methanol.

A handful of cars are supercharged, with the two Novis, the Cummins Diesel, and a new car built for Hart Fullerton, Santa Monica, Calif., the only supercharged entrants reported to date.

Introduction of the Ferraris which have had outstanding success in European racing may prove by their performance the merits of a multi-cylinder high horsepower, low torque engine as compared to the four-cylinder high torque type so popular in U. S. cars.

Five Ferraris are entered at this writing. All are rear drive cars powered by V-12 engines of 270 cu in. displacement with two spark plugs per cylinder. They are the first serious foreign threat since 1946 when the Maserati factory in Italy sent a three-car team to this country, one of which took seventh place in that year's race.

Johnnie Parsons, 1950 winner, will drive the Grant Piston Ring Ferrari Special built in Italy expressly for the race. This car developed 380 hp on a dynamometer test and is reported to have a top speed of 173 mph at 7,500 rpm. The engine is not supercharged and uses a special magneto said to

(Continued on page 126)



Indianapolis Cars . . . Continued from Page 125

have been designed at a cost of \$3,000. Three carburetors will be used.

Two of Europe's top drivers, Guiseppe Farina and Alberto Ascari, are expected to pilot two more of the Ferraris. Johnny Mauro, Denver, Colo., will drive the Ferrari he owns while the Howard Keck Company has entered a Ferrari as its second contender in the

Wheelbases of several of the Ferraris are being lengthened to 98 in.

An interesting feature is the preparation of stock engines with extremely high output. With modifications of compression ratios, valve timing and lift, carburetion, and exhaust manifolding, these

stock engines for racing cars will be something to observe. They are possibly the forerunners of more such stock engine development, for stock engines up to 335 cu in. have already been OK'd for the championship races following this year's Indianapolis races.

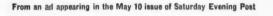
Modifications of a stock Studebaker V-8 engine feature an overhead camshaft design and valve action, for use in a new J. C. Agajanian car being built by Ed Cuzma and to be driven by Allen Heath. Leo Goossen, design engineer, Meyer & Drake Engineering Corp., designed the engine changes and Willie Utzman, Montrose, Calif., collaborated on the modification work. Major changes are in the overhead system. The new heads have 4 valves per cylinder: 2 intakes, and 2 exhausts. A spur gear train off the front end, drives the four camshafts. Valve action is similar to the Meyer & Drake 270's, but somewhat smaller and using considerably lower valve lift, i.e., .280 valve lift on exhaust and .314 valve lift on intake. Weight of the valve assembly as a complete unit, comprised of tappets, lock and keeper, half the weight of the two springs per valve, and the valve itself, is approximately 41/2 oz. This is expected to permit engine speeds up to 8,000 rpm. Anticipated horsepower rating is 350 hp at 7,000 rpm. Valves have been reworked from stock Studebaker exhaust valves.

Rather than use the conventional carburetion and manifolding, the (Continued on page 128)

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"WE STAKE OUR LIVES ON MARQUETTE WELDS!"



MODEL 70 SERIES MARQUETTE AC WELDER

Here's the arc welder that

goes to the races. In 4 years

1763 race car welds, with-

out a failure. And now for

the 5th straight year, Mar-

quette is again official at the Indianapolis Motor

Speedway.

ndianapolis . . .



When the chips are down . . . when their lives are at stake . . . famous race drivers have learned to depend on welds made with Marquette equipment. That's why again in 1952, the Indianapolis Motor Speedway has requested Marquette welding and battery charger service.

Put your confidence in that same equipment. Ask your distributor about Marquette.



MARQUETTE

Welding & Automotive Service Equipment

MARQUETTE MANUFACTURING CO., INC. • 307 E. HENNEPIN AVE. • MINNEAPOLIS 14, MINNESOTA



offers the best in profit-making welding and battery charging equipment."



"I thought I'd name this one after you, Marge!"



Coast to coast you get the most from FITZGERALD Metallic Aluminum GASKETS "
Steel Asbestos

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SAYS P. J. FITZGERALD

Gaskets are as vital to a car as gasoline...and a gasket failure can be far more costly than running out of gas. That's why it pays, when you install new gaskets, to use Fitzgerald Metallic Aluminum-Fused-Oxide Steel Asbestos Gaskets:

Designed and ruggedly built to withstand the extreme pressures and heat developed by modern high compression engines, they have proven their ability to give unfailing performance under all sorts of operating conditions.

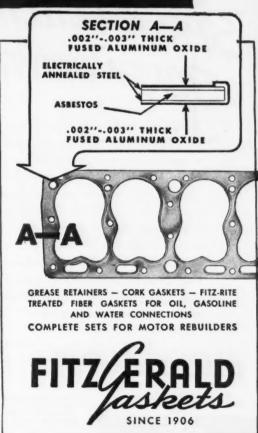
Since 1906 Fitzgerald has stood for progress in gaskets. Distributed exclusively abroad by the world's largest manufacturer of automobiles.

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THE FITZGERALD MANUFACTURING CO.

CANADIAN FITZGERALD, LTD. TORONTO, CANADA

Chilton's MOTOR AGE, MAY, 1952



Torrington, Connecticut

BRANCH AND WAREHOUSE LOS ANGELES, CALIFORNIA

Indianapolis Cars . . . Continued from Page 126

Hilborn injection unit has been fitted to the engine to afford individual carburetion for each cylinder. The complete unit, including the injection pump, weighs 8 lb.

Compression ratio has been raised from 7.1 to 15.1, requiring the use of methanol. Bore is 3 9/16 in. and stroke is 3½ in. Engine displacement is 260 cu in. A stock Stude-

baker crankshaft and block are used.

At least one Cadillac engine is being modified for possible use in the race. Detroit Racing Equipment Co. is doing the work but no features of this modification were available at press time.

Many spectators were disappointed in last year's race when

only six cars crossed the finish line. An important rule change is expected to correct this. After a one year trial, the rule was eliminated which required all contestants to race with the same size tires and same gear ratios as used in the qualifying runs. In the 1951 race, many mechanics geared their cars to permit operation at engine speeds of absolute maximum rpm. As a result, mechanical failures during the actual race were unusually numerous. Of the six cars which qualified at speeds of better than 135 mph, only the car driven by winner Lee Wallard was able to finish the long grind.



With the elimination of the gear ratio and tire size rule, every car should be ready to run at top speed in the trials, making competition for the front row positions very keen. Then, by reverting to gear ratios and tire sizes more suitable for the full 500 miles, all contestants will have a better chance of remaining in the running for the entire distance without reducing their chances of breaking Wallard's race record of 126.244 mph.

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New cars with unusual features include the entry of William B. Ansted, Jr., Indianapolis, designed and built by Roscoe Ford, who is also chief mechanic, and Myron Stevens. The car will probably have the lowest center of gravity of any 4-cylinder rear-drive cars in the race. Major design development consists of placement of a quick-change transfer gear case on the rear of the transmission, over to the left side, with the drive shaft running along the left side of the seat.



Check plugs this easy way!

Herbrand's SPARK DETECTING SCREWDRIVER No. 304E

Here's a top quality, dual-purpose screwdriver that can be used to check the operating efficiency of spark plugs in a matter of seconds. When the blade is touched to the spark plug terminal, a flash of light appears in the transparent area of the handle. A brilliant flash means the plug is functioning perfectly. A dim flash means the gap is too narrow. No flash at all means a short.

The screwdriver is pencil-slim and only $5\frac{1}{8}$ " long. Ideal for use on voltage regulator, distributor, under the dash, etc. Tip is magnetized to hold screws. Clips right to the pocket.

Mechanic's Net \$0.75

The No. 304E is Herbrand's Tool-of-the-Month selection for June. See it at your Herbrand distributor or write us.



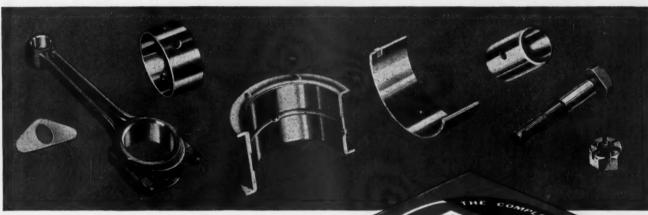
Be sure and enter Herbrand's Indianapolis "500" contest. It's free! Get your entry blank from your nearest Herbrand distributor today. Closing date—midnigh May 24, 1952.

Herbrand Tools

Fremont 7, Ohio
THE BINGHAM-HERBRAND CORPORATION

The COMPLETE

engine bearing service



... and what it means to you

With over 7,000 items of engine bearings service, Federal-Mogul provides you with the right parts for *any* bearing job you get.

Whether the engine is old or new, Federal-Mogul supplies the bearings, bushings, rebabbitted or exchange insert type rods, shims, bolts and nuts you need for good engine reconditioning.

You've heard the saying in the trade: "If you can't get it from Federal-Mogul, you can't get it anywhere!"



ASK YOUR FEDERAL-MOGUL JOBBER



Federal-Mogul Service

(DIVISION OF FEDERAL-MOGUL CORPORATION)

DETROIT 13, MICHIGAN

Engine Bearings — (Main, Connecting Rod and Camshaft) Bushings Connecting Rod Service Exchange Insert Rods, Rebabbitted Rods Connecting Rod Bolts and Nuts V-Seam Piston Pin Bushings Shims and Shim Stock sure that the windshield wipers are working properly and that the blades wipe the glass clean. A small investment in a new pair of blades—or even a new motor when necessary—is cheap insurance against trouble in wet weather. Also, be sure that the hoses are not deteriorated or collapsed and, on electric motors, that the wires

are not loose or corroded.

A driver's door window that won't roll down is hazardous on cars without turn signals, because the driver cannot put his hand out to signal his intentions to other motorists. Therefore, it is a good idea to check the operation of window regulators. Also, be sure that the door latches work properly.

Many a casualty has resulted from doors that have flown open while underway. When an alligator type hood flies open, it can be equally dangerous, as this usually is a high speed occurrence. When the hood flies open, the driver cannot see where he is going and may drive the car off the road or into an oncoming vehicle. Test the operation of the hood latch and the safety catch and make adjustments and repairs where necessary.

Comfort is another factor which enters into driving safety. For instance, if the seat is sagged so that the driver sits too low, he will be continually straining to see over the steering wheel. The poor visibility and increased driver fatigue which result from sagging seats, contributes to unsafe driving. The body shop could offer a good service by replacing or adding springs and padding to the seat to bring it back to its normal height.

Generally speaking, cars which are kept in top notch condition are least likely to be involved in accidents. This not only applies to the mechanical end but to the appearance end as well. If a motorist has a well-kept car, he is likely to drive carefully to keep the car that way. Once he starts letting the car run down, to rust and generally deteriorate appearancewise, he is likely to be less careful in his driving habits. Therefore, the body shop should promote appearance maintenance in order to promote safety.





"If she's starting to smoke too much you'd better leave her here and we'll look her over."

EXTRA OIL CONTROL AT NO EXTRA COST!

Check these extra Leak-Proof oil control features included at no extra cost to you!

Seal Check Compression Ring keeps oil down! Reverse Loop Expander for uniform pressure!

Duplex Oil Control Ring has four scraping

Spacer rings made of Phosalloy and Altinized!

Auxiliary Oil Ring for extra oil control

capacity!

GET EAK-TROOF TO KEEP OIL DOWN AND PROFITS UP!

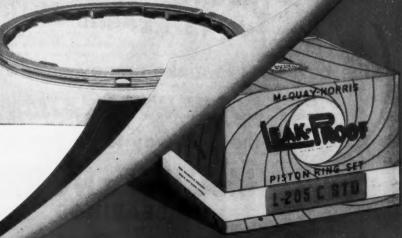
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McQUAY - NORRIS

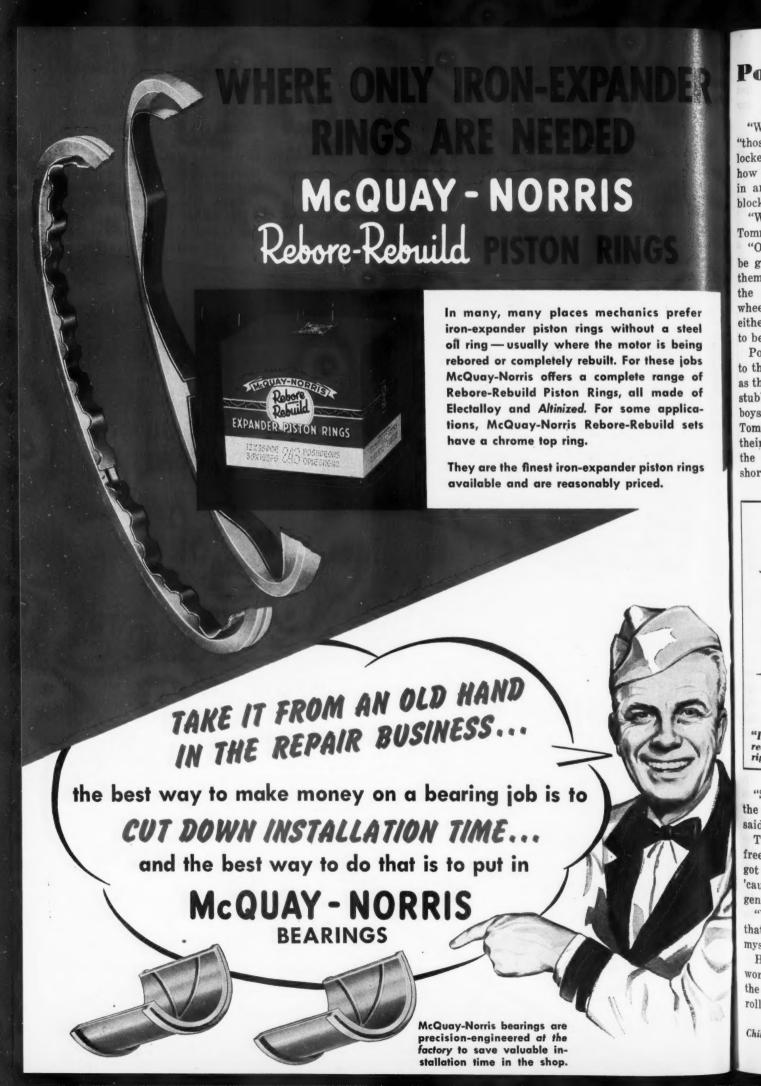








CHROME



"Well, I'll be darned," he said, "those wheels were certainly locked out in the field. I wonder how they got unlocked." He got in and drove it once around the block. It seemed to work fine.

"What's the matter?" said Tommy.

"Oh," Larry replied, "there must be grease on the linings. Make's them stick sometimes." He jacked the rear end and pulled both wheels but there was no grease on either lining and both linings seem to be wearing perfectly.

Pop had come back from a trip to the jobbers and walked up just as the two men were staring at the stubborn car. "What's the trouble, boys?" said Pop, and Larry and Tommy jointly began to explain their prospective difficulties with the car. Finally Pop cut them short.

"I can promise your car will be ready by noon but I can tell you right now it won't."

"Sounds as though it must be the emergency cables to me," he said. "Free them up."

Tommy shook his head. "They're free," he said. "As soon as Larry got back I took a look at them 'cause I just adjusted the emergency earlier today."

"Well," said Pop grinning, "in that case I better take a look at it myself."

He suited his actions to his words and promptly crawled under the rear. Just as promptly he rolled right out again and stood up. "What's a U-bolt for?" he asked sarcastically.

Larry didn't answer but Tommy said, "It holds the rear spring to the housing."

"Nope," said Pop, "this one doesn't. Tighten it up. It's too loose. Besides if it were tight, it would keep the rear end in line, too."

Tommy put the Kaiser up on a lift without another word, although he was puzzled as to why loose U-bolts might lock the rear wheel. As soon as he saw the car from the underside, however, he realized that the U-bolts had worked loose and that the center bolt had been sheared off.

"Pop," he finally said, "I still don't see why the rear end would lock. What happened?"

"Look, son," said Pop, "see how (Continued on page 134)



Pop O'Neill Continued from Page 133

this axle housing slides back and forth. Now when it slides back with the emergency adjusted tightly as you adjusted it this morning, for example, when the housing slides back then the cable is pulled and that sets the brake up tight. Mrs. McCormick didn't have any trouble when she was on the smooth road there but go-

ing across the pasture."

"Yeah," said Larry, "I knew it was something more than just the emergency brake out of adjustment or it would have tightened up before they even left the gas pump out front. That's why I took the wrecker."

"By the way, Larry," said Pop,
"I bet you don't take so many trips

down to the jobbers any more. You should see the new secretary that Mrs. Henry just hired for her husband."

Larry's face went glum. He said, "That's the way things go around here. Whenever there's a good road trip or a slick chick to size up, Tommy ends up with that job. What is the secretary, blonde or brunette?"

"He's bald," said Pop with a grin. "But I'll bet Tommy makes most of the trips anyway."



VAL-VIN-HED

CHEAPER Buy THE DOZEN!

List Chevrolets \$2.95 (\$3.10 on West Coast); Buick, G.M.C. \$3.50. 40% discount in cartons of 12. Order them by the dozen from your jobbers or write factory direct. The installation of a Val-Vin-Hed Silencer today offers the simplest, most practical method of silencing valve tapping noise. It permits a mechanic to make the proper adjustment for valve clearance... Lessens the danger of burnt valves... Provides important overhead lubrication and assures quieter, more efficient operation. Why not cash in on this much needed item. Order from your jobber today.

JOE L. ESTES COMPANY, Winder, Ga.

EASY TO SELL ... PROFITABLE TO HANDLE



"Hydramatic, Gyromatic, Simplimatic! Remember back in the good old days of just plain ordinary transmissions?"

Ford Names MacPherson To Succeed Youngren

Harold T. Youngren has resigned as vice president in charge of engineering for Ford Motor Co. His resignation was effective May 1. Ford directors have elected Earle S. MacPherson, previously chief engineer of the company's engineering staff, to succeed Mr. Youngren and also have made him a vice president and a member of the administration committee. Mr. Youngren will continue as a director of Ford and also will be retained as a consultant on engineering, reporting to the president and executive vice president. He also will be a consultant to the company's product committees. Mr. MacPherson joined Ford as chief engineer in Sept., 1947, leaving his previous position as chief engineer of Chevrolet's light car division.

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It's the SERVICE PROGRAM ... behind ALLEN Equipment **Equipment that creates** EXTRA SERVICE PROFITS FOR YOU!

"PERSONALIZED" SERVICE IN YOUR SHOP

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80 ALLEN SALES ENGINEERS
—Qualified to help you get the
greatest dollar return from your
equipment through Service,
Training and Instructions.

NEW-CAR SERVICING SPECIFICATIONS



Allen owners are kept up-to-date on latest car, truck and tractor servicing procedures and



ALLEN SYNCROGRAPH DISTRIBUTOR TESTERS—Any mechanic can easily and quickly test all types of distributors . . . provides proper timing at all speeds and loads.

EASIER-TO-USE EQUIPMENT



Extreme simplicity of operation, plus thorough personal instructions, insures better workmanship and efficiency.

MECHANIC TRAINING CLINIC AND SCHOOLS



"Down to earth" information that makes the mechanics' work easier, faster and more produc-



PROFIT-MAKING PROGRAMS FOR SERVICE PROMOTION



Shop-proven plans that show you how to increase your service volume, customer satisfaction and profits

ALLENCETT

service

equipment

ALLEN MOTOR ANALYZERS-Complete, fast and accurate testing of all starting, lighting, ignition, compression, and carburation systems. Removable units can be used anywhere.

Behind every piece of ALLEN equipment is a Service Program that assures you extra service profits! It is a "personalized" service that helps you get the greatest return from your equipment . . . keeps your equipment always in condition to make money for you . . . shows you how to "merchandise" your equipment to produce more parts and labor sales, reduce come-backs, and create more satisfied customers.

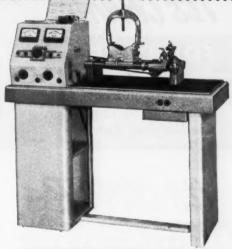
...your Service Dollars are bigger when you get the plus Allen Service Programs.



ELECTRIC and EQUIPMENT CO.

1805 N. PITCHER ST.

KALAMAZOO, MICHIGAN



ALLEN REGULATOR-GENERATOR SERVICER-A ALLEN REGULATOR-GENERATOR SERVICER—A "packaged" department containing everything you need for complete electrical testing and servicing in your own shop.

T'E Easy TO FIND ALL YOUR CUSTOMERS TROUBLE WITH Dial-Chek . . . THE POCKET SIZE DIAGNOSIS "GUIDE"!

You will be amazed at the EASE, SPEED and ACCURACY with which you can locate trouble with this ingenious method . send coupon for full details.

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minals. Not only is a bad battery cable a serious fire hazard, but it also increases the danger of a car's stalling on the road without power, especially bad on a busy highway at night.

The generator output should be checked and the brushes examined, as a generator that does not charge sufficiently can let a battery go dead while the car is underway. A systematic check of the wires should be made periodically—at least once a year. The wires in back of the dash, to the ammeter and the ignition, and all the way down to the coil, generator and starter should be inspected and tightened.

On older cars that have to be

equipped with sealed beam units, or on old cars with conversion units already installed, it may be necessary to bring the candlepower up to the proper specifications by adding a relay or new wires. Also, on cars with the old style headlights, check the reflectors and polish or resilver them as necessary.

While the ignition wires do not usually present the fire hazard that other wiring in the car does when in need of replacement, they can be dangerous in another way. In damp weather they will short out and cause intermittent running, possibly causing the engine to cut out or miss when the driver needs emergency power. Peak performance is necessary for safe driving, because the driver will sometimes depend on all the reserve power that the car can deliver to get him out of a tight spot.



Gardner to Run Again

Lt. Col. Goldie Gardner, London, will make another major assault on some of the world's speed records in his streamlined MG next August. He will run his car on the Bonneville Flats in Utah. In August, 1951, bad weather, trouble with timing equipment and other misfortunes cut short his attempts to smash existing marks. On separate runs the MG will be powered alternately by two engines, one of 1,500 cc. and the other of 2,000 cc. Gardner plans to go after short records up to ten miles and the one-hour record in each class.



SELLTHE MUFFLER THAT FITS THE CAR

ALL 3 WAYS



PHYSICAL FIT for fast, easy installations

for you on every job!

No compromise in size or shape . . .

each Soundmaster Muffler is engi-

neered for a specific make and model.

That's why Soundmaster FIT means

Fast Installation Time-more profit

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ACOUSTICAL FIT for full-range noise control

No "in-and-out" noise control here! Soundmaster eliminates objectionable noise on each car over the entire range of speeds and loads. Soundmaster engineers really know noise—and how to control it! HORSEPOWER FIT for all the power the car can deliver

The sacrifice of acceptable back pressure limits is one way to whip noise problems — BUT! Our engineers know better ways. You'll never catch a Soundmaster stealing power by stretching the back pressure limits!

Now, and from now on, install Soundmaster—the muffler that fits all three ways. Quickly available from NAPA Jobbers... correctly engineered for each make and model!

DE KOVEN MANUFACTURING COMPANY . RACINE, WISCONSIN



Packard to Seek Design Help from Italians

Another independent automobile company is looking to Europe for new ideas in automotive styling. W. H. Graves, Packard vice president of engineering, and Edward Macauley, chief engineer of the styling division, have left for Europe to discuss with Italian body designers the possibility of putting additional European feeling into future production models. They are visiting the Turin (Italy) Automobile Show and also will attend the British industry fair in the middle of May. Mr. Graves said that the Packard engineers feel that Italian styling is the finest in Europe because it combines good-looking artistry with up-to-date streamlining. Preliminary meetings with Italian designers now in this country already have been under way, he said: but he added that any results attained on the trip would not be seen in Packard design for several years because of the long time lag involved between original style conception and completion of the automobile.

Rhode Island Dealers Elect Asselin

The annual meeting of the Rhode Island Automobile Assn. was held prior to its 42nd Banquet in Providence. At the meeting, officers for the coming year were elected as follows: President, Romeo D. Asselin of Warren; vicepresident, Leo B. Carey of West Warwick; treasurer, Harold A. Lanphear of Providence; bulletin editor, Harry Sandager of Cranston.





Hard By Reg. W

(Continued from page 35)

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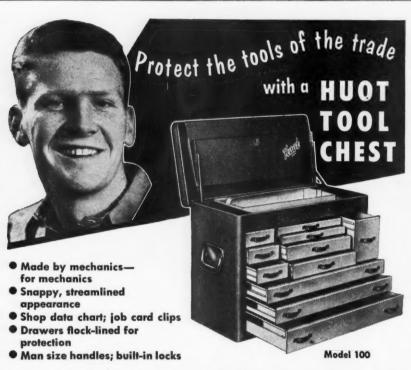
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Delivered price of the average car in 1940 was \$778; today it is \$1.835.

What the AEC neglects to add is that there was no withholding tax in 1940; smaller percentage income tax; no sales taxes in some areas; and smaller percentage social security tax.

A classified ad one day recently offered a Tucker car for sale along upper Broadway's auto row on Chicago's north side. Two things were not mentioned: first the price, and second if the car had a motor in it. One trade observer remarked that the "motor is probably an accessorv."



Seven of the eleven drawers are lined to take good care of your precision gauges and tools. Note the special drawer to handle your quarter inch hand drill . . . and the handy Tote Tray. A Huot Chest is a professional-looking job all the way through . . . and built to stand up under heavy abuse. Bright plated hardware . . . 2-tone hammerlin baked enamel finish . . . oil and grease resistant—just wipe it off to keep it clean. 18¾x26″x12″. For easy movability, it fits nicely atop a Model 250 Porta-Cab. Ask your jobber or write for bulletin on Huot Tool Chests and Cabinets.

HUOT MFG. CO.

585 N. Wheeler Avenue Saint Paul W4, Minnesota



Ask Your Jobber, or Send Coupon

HUOT MANUFACTURING COMPANY 585 N. WHEELER AVE. . ST. PAUL W4, MINNESOTA

Please send free bulletin on Tool Chests and Cabinets

NAME

ADDRESS

Name and Address of your Favorite Jobber

2 great aids to BIGGER CARTRIDGE PROFITS



OIL · AIR · FUEL · WATER
FILTERS

CALL YOUR FRAM DISTRIBUTOR OR MAIL THIS COUPON

FRAM CORPORATION, Providence 16, R. I.

Gentlemen: I am interested in

the Fram Cartridge Dispenser and/or

the Fram Sludge Syphon. Please have my Fram Distributor call on me.

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DISTRIBUTOR'S NAME



For a complete line of automotive and industrial friction materials you can depend on ... for building volume sales and satisfied customers ... a line developed by modern research and manufactured under rigid specifications for safety and long wear ... a line backed by the leading name in the development of asbestos products—you'll want to sell Johns-Manville Asbestos Brake Materials.

For more than forty-five years Johns-Manville has led the way in the manufacture of brake materials and clutch facings. Through the years, the development of today's most complete line of Johns-Manville Friction Materials has gone hand in hand with the advancements and refinements of the automobile itself.

Today, this outstanding line of automotive friction materials stands the test of quality by being specified and used as *standard original* equipment on leading makes of new automobiles, trucks and buses. Whatever the vehicle—or whatever the special requirements—there is a Johns-Manville Friction Material to meet the need. The completeness of the J-M line takes the guesswork out of any brake service or industrial friction material problem.

For more information on how you can build up your brake lining sales and other friction materials business and satisfy more customers, write to Manager, Automotive Department, Johns-Manville, Box 60, New

York 16, New York.





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line of

ASBESTOS BRAKE MATERIALS

builds volume and satisfied customers!



FRICTION MATERIALS

Passenger Car Leasing Becoming Popular

Passenger car leasing apparently is on the up trend and many dealers are watching it with some apprehension. The leasing trend is of particular interest to dealers who sell to fleet accounts. The automobile companies also are fully aware of what is happening and at least one large manufacturer has made a thorough study of the problem and has prepared a

presentation for its dealers outlining the advantages to both dealer and customer of a leasing operation. One large Detroit dealer says that the current trend toward leasing is likely to have a significant effect on dealer operations over the long pull. To date, much of the switch from individually owned cars to leased vehicles has been in large company fleets in which cars are owned by the personnel and mileage allotments given for their use. The switch to leasing has been made because of the advantages of a fixed uniform transportation cost to the company. In the case of company owned fleets, a sizeable reduction in capital investment results. There also are certain tax advantages, since all leasing charges may be charged off as operating costs. Leasing of cars is a trend which can well be watched by dealers.

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Mass Production of Aluminum Bearings

There is evidence that after many years of experimentation at least one major engine bearing producer is completing installation of a mass production aluminum strip bearing line. Others are carrying on experimental work in the development of the same type of thin-wall, steel-back aluminum bearing which is claimed to have many important advantages for motor car and truck engines. Evidence seems to indicate that the strip mill now going into operation will serve a prominent passenger car producer on its 1953 models.



Illinois Dealers Elect Lee Craig

At the annual convention of the Illinois Automotive Trade Assn. held recently the following officers were elected to serve for the coming year: President, Lee D. Craig of Rockford; vice president, Ola J. Thomas of Kewanee; secretary-treasurer, Earl Johnson of Peoria. J. H. Cizek was elected to the Board of Directors for two years.

STOP!

Here's a profit-maker and sales booster:

Federal Front Wheel Bearing Assortment No. 3



- Free attractive steel cabinet for display at point of sale on wall or counter. Has additional space for seals, other bearings.
- Contains two each of four complete front wheel bearing sizes.
- Services General Motors' cars and trucks, 1924-1952.
- Provides big return for small investment.
- In addition, you are protecting the life of your customer when you replace worn bearings. Worn front-wheel bearings mean excessive brake and tire wear, will damage steering and front end assembly.

Give your customers the benefit of Federal's complete frontwheel bearing service. Order a supply of Front Wheel Bearing Assortment No. 3 now.

> CALL YOUR NAPA JOB-BER OR WAREHOUSE FOR COMPLETE DETAILS





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THE FEDERAL BEARINGS CO., INC., POUGHKEEPSIE, N. Y.

The Most Complete Line for the Automotive Industry

the NEWEST advancement in the science of wheel alinement gives you the NEWEST way to sell alinement services

the NEW "BEAR

all steering and alinement troubles are exposed right before your eyes!

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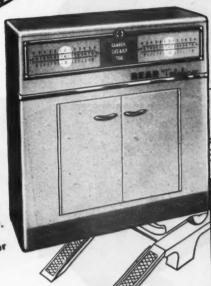
Operator makes adjustments without getting out from under car.

Both mechanical and electrical readings can be made at the same time.

Readings are MAGNIFIED on Tell-All Screen. - no projection tubes used.

Sells itself because it's NEW . . . it's NOVEL ... and it's Electrically Accurate.

Quickly adapted to present equipment. Alinement checked from either wheel rim or spindle.







"BEAR" DY-NAMIC WHEEL BALANCER 36

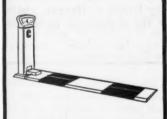
"Bear" Dy-Namic Wheel Bal-"Bear" Dy-Namic Wheel Bai-ancing is a high-profit service that enables you to sell more parts and services and save your customers up to 50% in tire life. The "Bear" 36 shows you clearly, where and how much weight to add. Operation is simple and exceptionally fast is simple and exceptionally fast.



"BEAR" FRONT-END ALINER 115-F

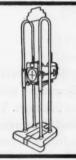
The new Floor Model Aliner includes the new streamlined fast checking heads for quick accurate checking of wheel alinement on all passenger cars and light trucks, including the new low fender model. Use this portable, self-contained unit anywhere in your shop.





BEAR" WHEEL ALINEMENT TESTER 250

Wheel alinement jobs are easy "bear" 250 Tester. As a vehicle is driven over the tester, two detector blades contact the tires. The alinement condition of the vehicle is immediately shown on a large dial for you and your customer to see.

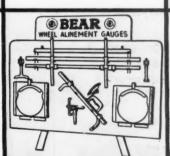


BEAR" HEADLIGHT TESTER 560

Another "Bear" Service that Another "Bear" Service that brings in high profits on tests and increased sale of your electrical services. The "Bear" Headlight Tester checks the lateral aim of the light beam, beam elevation and light output volume. Accurate tests are simple and take but a few minutes to make.



This complete set of precision Wheel Alinement Gauges pro-vides a low cost method of increasing your Alinement fa-cilities. A sturdy metal display board holds Toe-in Gauge, pair of Turning Gauges, Tire Scriber and Caster-Camber Kingpin Gauge for making front-end inspections on cars and trucks.



Write for FREE "BEAR" CATALOG!

This new "Bear" Catalog contains illustrations and descriptions of the complete line of "Bear" Safety Service Equip-ment. You can find the type of equipment best suited to your individual needs. There is cost or obligation-write for your copy TODAY!





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AAA Road Trip Survey Completed for 1951

The AAA's annual summary, based on reports from 20,000 garages under contract to render emergency road service to its members, showed an 11 per cent increase in breakdowns of all types last year. Car trouble occurred at the rate of 93 a minute, the AAA estimated.

Flat tires, or blowouts, ranked

at the top of the list of motorists' troubles, with battery failure—chief headache in 1950—a close second, the AAA said.

Among other types of car trouble, ignition failures also rose considerably, the AAA reported. Unusually inclement weather in many parts of the country and the shortage of copper with which to replace ignition wiring systems accounted for these breakdowns, according to the AAA.

Last year, about 1,393,000 drivers ran out of gas on the road and another 733,000 absent - minded motorists lost their keys or locked themselves out of their cars.

Following are national estimates of the number of breakdowns, reported by type of difficulty:

TYPE OF SERVICE	1951	Pct. of Total
Tire	10,443,000	21.36
Battery	10,266,000	21.00
Ignition	6,468,000	13.23
Tow	5,226,000	10.69
Stuck	3,877,000	7.93
Starter	2,312,000	4.73
Wrecker	2,127,000	4.35
Carburetor	1,608,000	3.29
Out of Gas	1,393,000	2.85
Brakes	763,000	1.56
Lock & Key	733,000	1.50
Gas Line	569,000	1.22
Lights	440,000	.90
All Others	2,635,000	8.05
TOTAL	48,887,000	100.00

Old Timers Dinner Scheduled for Fall

The 13th Annual Old Timers Dinner will be held on October 20th at the Waldorf-Astoria Hotel. The following committee is in charge of arrangements: John J. Schumann, Jr., chairman; Alfred Reeves, C. Ray Palmer, Clifford M. Bishop and Reginald M. Cleveland. Membership in the national organization of America's motor car pioneers has increased to 4,345 following the election of 73 members, according to a report issued recently by Ralph T. Horgan, chairman of the committee on admissions.

DE



You have always recognized the quality and uniformity of Johnson Bearings; now, you can readily recognize the attractive Johnson package. You can be sure they are the genuine Johnson Con-Rod Bearings—made to the same precise specifications as those furnished automotive builders for the original equipment. They now join the other Johnson Motor Bearings in distinctive new dress.

Johnson Connecting Rod, Camshaft and Main Bearings are packed in COMPLETE sets for all leading makes of cars, trucks and buses.

Know the Johnson line of automotive bearings and bushings. Write today for new catalog.

Steel Bearing Head Quarters 455 SOUTH MILL STREET • NEW CASTLE, PA

144





DELCO'S ACCEPTED BY MILLIONS

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America knows that Delco's the buy. That makes it the automatic choice of millions of motorists. They count on Delco batteries for quick starts-reliable service-and long life.

. . . the battery of mightier power and efficiency. Delco batteries are

available everywhere through United Motors wholesalers.

YOUR MARKET FOR DELCOS IS UNSURPASSED

There are original equipment Delco batteries in more cars and trucks than any other make. These Delco owners are pre-sold on Delco . . . the battery they know for good service.

MERCHANDISING HELP TO KEEP YOU OUT FRONT

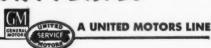
It's easy to keep out front in battery sales. Delco's up-to-theminute merchandising aids, plus battery service and technical data, are all designed to help you.

THE DECISION'S YOURS ... LET THE DELCO BATTERY BOOST YOUR SALES

The motoring public has confidence in Delco batteries. You are in a position to offer them a Delco battery that is designed and built for today's motoring conditions. Get started in this profitable business now . . . by seeing your local United Motors wholesalers.

DELCO BATTERIES

A GENERAL MOTORS PRODUCT



DISTRIBUTED BY WHOLESALERS EVERYWHERE

UNITED MOTORS

General Motors Building

ERVICE

Detroit 2, Michigan

Maximum Starting Power!

In life performance tests, Delco Batteries showed maximum starting power, after months of operation.

New Super-Quick Starts in Cold Weather!

Exclusive, patented "expander" formula used in making negative plates for batteries produces greatly improved action in cold weather.

New Battery Ruggedness!

Exclusive high temperature vapor treatment of plates creates stronger, longer-lasting bond...insures greater resistance to shock and distortion.

New "Balanced" Gravity Rating for Finest Performance!

The new "balanced" gravity rating of Delco batteries assures users of longer battery life. Extra battery life means extra miles per battery-more value for your money.

"Tailored" Cases!

Delco has "tailored" cases for each battery model. Special sealing compound to prevent cracking and leaking. Visual filling device for instant servicing.

FRB Says New Car Market Is Slipping

If the Federal Reserve Board is right, fewer people are in the market for new cars than were planning to buy a year ago.

Records from auto retailers for the first few weeks of the spring seem to bear out the Board's forecast. Sales firms are getting impatient because the beginning of warm weather hasn't resulted in a sizable upswing in business. Despite this early lack of a buyer's rush, there are factors which can lead to a good year for dealers and maintenance shops. For example, Federal Reserve Board says at least as many persons are interested in used cars as were considering buying them in 1951.

The outlook for sales of new cars is not entirely gloomy, however, for officials of some companies manufacturing very popular lines say there is more demand than they can supply. More trouble in finding

buyers, however, is being noted by dealers handling those cars that have never been big sellers.

In the spring of 1951 a similar sluggish buying season was commented on by the auto business. This "soft" start, though, didn't prevent the sale of almost as many passenger cars as were turned out last year, when factories produced 5,337,729. (The carry-over from 1950 output was about 400,000 cars.)

Probability is that salesmen will have a total of about 4,500,000 new autos to work with this year, if the Government agrees to supply builders with those materials they've requested for the remainder of 1952.

Not much assistance in tempting the potential buyer can be expected from Federal Reserve. Latest report is that the Board doesn't plan any big changes in its controls on installment buying.

Federal Aid Offered Damaged Repair Shops

Repair shops and stores, factories and service stations in the Midwestern area hit by floods were being tabbed to receive Federal aid only a few days after their localities were stricken.

One of the initial acts to help proprietors get back into operation was performed by National Production Authority. This agency set up a special allocations and priorities plan to enable businessmen and home owners to get materials.

According to the plan, these persons can self-certify orders for as much as 25 tons of steel, 2000 lb. of copper and 1000 lb. of aluminum.

At the same time, President Truman ordered \$250,000 in Government money set aside for flood relief in Nebraska, and Reconstruction Finance Corporation began issuing loans to property-owners suffering losses because of water damage. In the first week of the flood, RFC approved more than a dozen such loans.

Chilton's Motor Age Flat Rate and Service Manual, 23rd Edition (1952) has received the approval of the Office of Price Stabilization.

PAYS PROFITS-QUICK!



With new car production declining, more and more motorists will come to you for repairs. Get ready now!

, This low-cost Atlas outfit equips your shop for speedy armature service. No waiting for the other fellow to get your jobs out, no splitting of profits. Do the work in your own shop, keep all the profit.

The Atlas set-up handles any armature, centered or centerless.

It does a complete precision job—trueing, undercutting, polishing—in less than 10 minutes.

Such a low labor cost means that most shops earn back the armature outfit cost quickly — and then go on to a new high profit level.



FOR FREE COPY Ask your jobber today about this complete Atlas armature outfit, or write for full details.

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• The lines which your NAPA Jobber stocks are all produced by independent manufacturers. But they have in common a single standard of quality—the finest! Many of these lines are widely used as original equipment. In every case, parts which bear the NAPA Seal are recognized by automotive engineers as meeting the most exacting requirements for

cars, trucks, tractors and buses of all makes.

For fast service on these fine-quality, fullcoverage lines, your NAPA Jobber is THE man to know. Backed by NAPA Warehouse service, he is equipped—like nobody else in the busi-

ness—to give you the parts and supplies you need . . . when you need them!

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is the largest Independent Parts Organization in the Industry!



SUNNEN Universal CRANKSHAFT DRIVE

Kapp's Auto Pants Co. . Genuine and Replacement Parts • Yennine and Keplacement Parts
• 208 NORTH ILLINOIS
• BELLEVILLE



March 11, 1952

Mr. Joe Sunnen Sunnen Products Co. St. Louis 17, Mo.

Dear Mr. Sunnen:

I just got back from grinding a throw on a Buick Dynaflow, a throw on a Buick Dynaflow, the source of the control of that fits over the engine and I want to tell you how much I like your new the engine and I want to tell you how much I take fits over the engine and I want to tell you how much fits over the engine and I want to tell you have automatic transmissions.

Crankahaft Drive.

It's simple to set up, and it turns the shaft smoother and steadier, without a sign of backlash or the steadier up the job and makes it easier too Twe done several dozen jobs in the few months we've had to couldn't found a shaft yet that I couldn't found a shaft yet that a pit so the new I like to put the job. You can't do that with any and and the job. You can't do that with any other method.

If you want a booster for your new drive, you can count on ma.

other method.

Henry Vallingky Henry Wellinghoff, Hechanic Rapp's Auto Parts Co. Kapp's Auto Parts Co.





The King's English: Automotive Style

Too much use of the strangler may promote need for decoking an engine. What's more, you shouldn't complain about bounce if you've failed to top up your dampers. This, according to a new glossary of American and British automotive terms, compiled by Chrysler Corporation's Engineering Division, is the way a Briton would say overchoking promotes engine carbon and that shock absorbers must be serviced if you want to keep your car riding properly.

The glossary, comprising 46 commonly-used terms, follows:

AMERICAN	BRITISH
Automobile	Motor car
Bumper guards	Over-riders
Chamois	Wash leather
Choke	
Convertible	Dronhead
Cowl	Scuttle
Dashboard	Facia
Defroster	De-mister
Dimmer switch	
Dump truck	Tinner
Fenders Wing	s: mudenarde
Filling battery or	s, muguarus
shock absorbers.	. Topping up
Full (maximum)	
speed	Flat out
Gasoline	Petrol
Gearshift	
Generator	Dynamo
Glove com-	•
partment	Cubby locker
Headlight	Headlamp
High gear	10p
High gear	
High gear Hood House trailer	Bonnet

AMERICAN BRITISH
Hub caps
Lehead engine Side-valve engine
Muffler Silencer
Odometer Distance recorder
PartsSpares
Radiator ornament Mascot
Remove carbon Decoke
SedanSaloon
Shock absorbers Dampers
Spark plugs Sparking plugs
Station wagon Estate car
Tachometer Rev counter
Tire Tyre
Top (convertible) Hood or head
Touring car Tourer
Transmission Gearbox
Truck Lorry
Trunk Boot (luggage locker)
Turning signals Trafficators
Vent window Ventilators
Window Light
Windshield Windscreen
Wrench Spanner
Wrist pin Gudgeon pin
Wrist pin bushing Little end bush



Prize Packard . . .

The Packard Pan American pictured above was awarded top prize at the International Motor Sports Show held recently in New York. It was called "the ear with the most outstanding design and engineering achievement." Hugh J. Ferry (left), accepts the troppy from Show Manager Fred Pittera (center). Motor Sports Show Queen Shirley Talbott helped to make the presentation official. The car was designed by Richard Arbib and was built by the Henney Motor Company.



Provides Smooth, Steady, Chatter-free Power for Any Portable Crankshaft Grinder

The new Sunnen Universal Crankshaft Drive solves the problem of automatic transmissions and fluid drives. It turns the shaft directly through the crankshaft pulley. It's the answer to Dynaflow, Powerglide, Hydramatic—Fordomatic, Merc-O-Matic, Borg-Warner transmissions—to all automatic and fluid drive as well as standard transmissions.

For cab-over-engine trucks, an adapter quickly converts the Universal Drive into a rear wheel drive.

f you own a Sunnen Precision Crankshaft Grinder—or any other portable grinder—you can do a faster, better job with this new Drive.



Automobiles Offer Shelter From A-Bomb

If you remain in your automobile when an atomic bomb hits nearby you won't be entirely safe, but you'll be better off than in no shelter at all, Federal Civil Defense Administration says.

Results of tests made at the A-bomb proving ground in Nevada last year, when five hard-topped cars were parked at varying distances from the center of an explosion, showed that autos provide "only limited protection" from radiation. On the basis of these facts, FCDA says:

1. If you're in a town or city and hear the raid warning, park and hurry to a nearby shelter area or a tall, sturdily-built structure. Stay low and keep away from windows.

2. If your first warning is the flash of the explosion, crouch low in your car and don't budge until

debris stops falling. Then, if possible, get out of the street.

Buick Increases Hard-top Production

According to a recent announcement by Ivan L. Wiles, general manager of Buick and vice president of General Motors, Buick plans a 30 percent increase in the production of hard top convertibles in the second quarter to meet demand. This will call for a production of more than 26,000 hard-tops. The popularity for this type is equally noticeable in the Super series where one out of three cars built is a hardtop.

Armed Forces Have Synthetic Lubricant

Army and Air Force officers are interested in the Navy's development of a variety of synthetic lubricants, including some types with a turpentine base.

Early work on this particular product was done by the Agriculture Department in cooperation with the Navy. Scientists found they could use one component of turpentine to form pinic acid. This substance, combined with highboiling alcohols, produced new classes of lubricants.

In this number are oils for lubricating aircraft gas turbine engines, instrument oils and greases, and hydraulic lubricating fluids. They can be used alone or mixed with other synthetics or mineral oils.

Besides having a bright future in military projects, these new lubricants can be of great value to civilian business because of their expected low cost.







FRAM Gasoline Filter...

Removes water and solid particles from fuel - - protects finely adjusted carburetor mechanisms . . . a natural sale to all your customers

Make extra profits. Build an extra market. Protect your goodwill. You do all these with the sensational Fram Gasoline Filter.

It's a low-cost, high-volume, fast-turnover item. Easy to sell. Easy to

install. Every customer you have is a prospect. And you can change the cartridge while the car is gassed.

That's where your profit payoff comes in. With every Fram Gasoline Filter you sell, you build a new replacement cartridge market with an endless chain of profits.

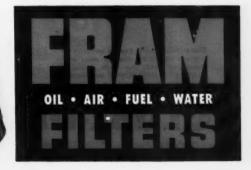
The Fram Gasoline Filter helps insure smooth operation on your customers' cars because it protects finely adjusted modern carburetor mechanisms. Removes water and dirt, rust and scale particles. Like all Fram Filters it's unconditionally guaranteed. Stock up and cash in.

FRAMilter BEST ... by actual test!

Here's positive proof Fram outperforms other popular oil filter cartridges. In scientific laboratory tests Fram removed from 69% to 114% more dirt than all other popular brands tested. Ask your Fram Distributor to show you the whole story in "FILTER FACTS," the amazing new book with all the answers to your filtration questions. Remember, Fram Sells Best because Fram Filters Best.

Fram Corporation, Providence 16, R.I. In Canada: J. C. Adams Co., Ltd., Toronto, Ont.





Globe-Union Grids

help make your customers "battery happy"



GLOBE-UNION INC. MILWAUKEE 1, WISCONSIN

Battery Production Plants At: ATLANTA, GA. • BOSTON, MASS. • CINCINNATI, O. • DALLAS, TEXAS • EMPORIA, KANS. • HASTINGS-ON-HUDSON, N. Y. • LOS ANGELES, CALIF. • MEMPHIS, TENN. • MINERAL RIDGE. O. • OREGON CITY, ORE. • PHILADELPHIA, PA. • REIDSVILLE, N. C.

Performance that stands out!

• No other manufacturer can duplicate Ditzler's record of consistently dependable performance in the field of automotive finishes. That's why Ditzler finishes have been used year after year for nearly half a century by most of the builders of passenger cars, trucks and buses. This continuous preference has

lifted Ditzler to its present position as the foremost exclusive manufacturer of automotive finishes. Because Ditzler finishes are rated as best by those who build automotive vehicles, it is reasonable to conclude they should also be the most efficient, most economical and most satisfactory for refinishing needs.

DITZLER

TWO STAR **
EGYPTIAN SAND

Save time, effort and cost with DITZLER TWO-STAR** Materials!

◆ You can't buy better lacquers for automotive refinishing. Thinned with Ditzler Two-Star★★ Thinner, DTL-113, Ditzler Two-Star★★ Lacquers flow on so smoothly that little compounding is required. Two-Star★★ Polishing Cleaner, DRX-4, gives a brilliant lustre. Use Two-Star★★ Polishing Compound, DRX-25, if color is sprayed a little dry, or over-spray is rough. Two-Star★★ Gloss Undercoat, DL-900, eliminates sand scratches in old lacquers. You'll find these materials ideal for small touch-up spots on baked enamel jobs. They are also deluxe materials for all-over jobs in lacquer.

DITZLER COLOR DIVISION, Pittsburgh Plate Glass Company, Detroit 4, Michigan

DITZLER

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PITTSBURGH PLATE GLASS COMPANY

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TIME PAYMENT REPAIRS HELP KEEP PROFITS UP—The Car Repair Plan, available to franchised Commercial Credit dealers only, helps compensate for lower car sales by bringing in the big repair jobs and letting the customer pay over a period of months. Commercial Credit franchise dealers also profit from repair work done under insurance claims on cars purchased through the Commercial Credit Plan.



PARTNERS RECOMMEND COMMERCIAL CREDIT PLAN—A. C. Carriker and C. J. Johnston, partners of Carriker Motor Co., successful DeSoto dealers of Quincy, Mass., are enthusiastic: "We've been financing through Commercial Credit for 17 years," says Mr. Carriker, "and they've financed anything we wanted to buy. No other financing company offers as much as Commercial Credit."



SEE THIS INTERESTING STUDY — Just write, wire or phone your nearest COMMERCIAL CREDIT office, and a representative will call at your convenience and show you "The Dealer's Stake in Time Selling." It can help you keep profits up. Naturally, there's no obligation.

YEAR AFTER YEAR—Commercial Credit financing is complete, competent, dependable





SELL this one

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SAF-LIFT BUMPER JACKS this one



QUICKER

Operates 50% faster then similar jacks! No parts to assemble, quicker to set up!



Load rest is grooved into rolled steel rail. Rail helps carry load. Legs are locked apart.



MODEL 1030 SAF-LIFT

Car owners want a jack that's easy to operate, simple to set up and safe to use. That's why they want Saf-Lift! This unique jack was especially built to quickly and simply raise any car high enough off the ground for trouble-free tire changing. Gone is the huffing and puffing... gone is the stooping and bending... gone is the fear of having the bumper slip off the load rest. Here to stay is Saf-Lift, the bumper jack everybody wants—sales reports from dealers, store managers and service station operators bear this out!

FOR RE-SALE TO

CAR OWNERS

MODEL 1020 SAF-LIFT

EASIER
Thrust-type roller

bearing for easier lifts! Handle is waisthigh ... no stooping! Here's the Saf-Lift expressly made for service men! This heavier model has the strength and stamina to stand up under continuous service duty, yet it is just as easy to handle as its lighter-weight counterpart. Model 1030 is just the jack to take on emergency road calls... depend on it for efficient service lifts, even under toughest conditions. It also comes in handy as an extra jack around shop or station, when a quick, simple lift is needed. Write for FREE descriptive catalog bulletins on Saf-Lift, both models 1020 and 1030.

SUMMER VACATIONS MEAN SUMMER VACATIONS MEAN BIGGER SAF-LIFT SALES... BIGGER SAF-LIFT SEADY BE SURE YOU'RE READY TO MEET THE DEMAND!

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AUTO SPECIALTIES MFG. CO., Dept. MA-5, St. Joseph, Michigan



"I show my customers that proper tire inflation . . . according to the industry-endorsed heat build-up formula . . . can help him get all the extra miles out of his tires. My customers are impressed. They like this special service so much they change from 'once-in-awhiles' to 'steadies' . . . and steady customers mean that I get all their business instead of justa share of it."

You, too, can build business with Schrader Certified Air Service. This practical idea in sales-through-service is catching on fast with alert dealers. Get set now. Start by "tuning up" your air service equipment. Is it checked at least once a week for gauge accuracy? Need an extra line or two? Ask your supplier for Schrader Products . . . and full details about Certified Air Service.

A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
BROOKLYN 17, N. Y.



FIRST NAME IN TIRE VALVES

FOR ORIGINAL EQUIPMENT AND REPLACEMENT



Lion Nokorode Does 50% More Cars Per Drum!

Lion Nokorode Under-Car Sealer and Silencer is concentrated. You spray Nokorode to 1/6" thickness—and it dries to almost 1/6" thickness . . . there's no wasteful excess solvent.

Result: You can coat twice as many cars with the same amount of Nokorode as you'd do with ordinary undercoatings. Yet Nokorode costs no more. Drum for drum, that means-

... You Make 50% More Profit!

Lion Nokorode Goes On Smoother, Faster — Saves Labor Costs!

Unlike other undercoatings, Lion Nokorode is produced entirely, from raw materials to finished product, by a single company, Lion Oil-under U. S. Patent 2,393,774. That assures controlled uniformity, controlled quality . . . a better undercoating.

Nokorode is uniform, for smooth application-it can't come out in troublesome "blobs." It's free-flowing, permitting steady pressure in the gun-no lost time due to lost pressure.

And it's stable, made of highly compatible materials-won't separate out in storage. won't clog guns or hoses causing expensive clean-up jobs. Compared with inferior undercoatings, Nokorode saves you plenty of man-hours-

... Giving You Even More Profit!

You're "In the Black" with

LION Nokorode Naturally bl no useless coloring ad

Naturally blackcoloring added.

Made and Guaranteed by



LION OIL COMPANY

El Dorado, Arkansas

FREE! How to Make More Money with Undercoating!

Lion Oil Company, El Dorado, Arkansas

Please send me complete details on how I can increase my undercoating profits with Lion Nokorode Under-Car Sealer and Silencer.

___Street or Route__

__State____

Brand of undercoating I am now using, if any....



... because, among other reasons,

more people buy Chevrolets than any other car!



CHEVROLET DIVISION OF GENERAL MOTORS, DETROIT 2, MICHIGAN

WE INSTALLED THE REVOLUTIONARY DIFFERENT GLOBE FRAME-KONTACT HOISTS



*Trade Mark. U. S. & Foreign Patents Pending



Frame-Kontact Hoists permit better lubrication . . . in less time . . . at less cost,



Kontact Hoists installed at McCarroll's, Inc., prominent

MORE PROFIT PER SQUARE FOOT

Ploor space really pays out with the Globe Frame-Kontact Hoist. Studies have shown that a lubrication or service bay earns \$1200 in ADDED PROFITS when this modern Hoist is installed. With Hoist down, floor is available for parking or cross travel.

MAXIMUM ACCESSIBILITY

Frame-Kontact lifting means WIDE OPEN accessibility to all underside parts of a car. Service jobs get done faster. Work is done more expertly. BIGGER PROFITS result.

IMPROVED LUBRICATION TECHNIQUE

A car, lifted by its frame, is in the BEST POSITION for effective lubrication. Suspensions are relaxed. Lubricant flows easily into important wear points.



GLOBE HOIST COMPANY, E. Mermaid La. at Queen St., Phila. 18, Pa.

World's Most Complete Line of Lifting Equipment

GLOBE HOIST COMPANY E. Mermaid Lane at Queen St. Philadelphia 18, Penna.

MA413

Please send me full details about the Globe Frame-Kontact Hoist.

Company_ Street Address_

City, Zone, State_



SOLO SUESS-TEST!

A progressive shop owner recently purchased two SUN Testers for \$1,400. He sent a mechanic to the SUN Technical Training Center. Salary and expenses during training totaled about \$1,000. Total investment was \$2,400. During the first six weeks operation of his Diagnosis Department, he diagnosed over 200 cars at an average repair order per car of \$52.45. His monthly average of service sales jumped from \$6,000 to \$9,257 ... a monthly dividend of \$3,257 on his original investment of \$2,400.

This same story is being repeated in hundreds of service shops throughout the nation. Your SUN Man will be glad to show you actual facts and figures on this shop and hundreds like it.

Tell us the number of cars you service per month. We will show you what shops of your size may expect in increased sales and profits with SUN Diagnosis Equipment.

ECTRIC CORPORATION

6353 AVONDALE AVENUE CHICAGO 31, ILLINOIS

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POOR DRIVING HABITS CAUSE INCREASED GAS CONSUMPT

Prominent Automotive Writer Proves Point with Personal Car. Gains Extra 7.2 Miles Per Gallon by Using Correct Driving Practice. Concludes: "Driver Rules Car Mileage!"

By RALPH R, WATTS, Automotive Writer, The Detroit News

The question of how a motorist's driving habits affect the gasoline consumption of his automobile is becoming an increasingly important one to both the public and the auto men. With this in mind I recently conducted an interesting experiment on the subject. I found that driving habits DO affect gasoline consumptionand sometimes to a great degree.

The experiment consisted of various tests conducted over 2,000 miles, using my own car—a 1950 model in the medium price class. The car had slightly more than 11,000 miles on it when the tests were started, and it had received no special treatment, such as tuning up or other work. It is equipped with an automatic transmission.

"Safe and Sane" Driving

The driving was of two different types. For the first 500 miles, I drove like a so-called gentleman, using the knowledge garnered over a period of years about saving gasoline. For instance, I pressed down lightly on the accelerator in getting away on a green light, stayed in traffic lanes in heavy traffic, approached a red light at slow speed, braking gently, and observed all speed laws. Gasoline consumption was computed at 17.9 miles per gallon.

Tries "Hot Rod" Tactics

The next 500 miles were driven as a "hot rodder." I weaved in and out of traffic, spurting to find an opening. Red lights were approached with a rush, sometimes with a squeal of brakes. The boys who wanted a race getting away with the green light had a tussle of it. The average was 11.8 miles per gallon.

Repeats Tests

The next 1,000 miles was the same type of driving as that of the first 500, as the gentleman, obeying all the rules, etc. I must have used an even greater "pick-pocket touch" on the accelerator because the average worked out to 18.1 miles per gallon. But when the final 500 miles were driven it must be I had learned a few more tricks of the hot rodder. I did everything wrong I could think of. The average was 10.9 miles per gallon.

Saves Gas, Wear and Tear

What was the point of the tests? At the conclusion of them I was convinced that by driving sensibly I could not only obtain a pretty fair gasoline mileage, but also save a great deal of wear and tear on my automobile.

I also learned there were other factors to be considered besides gasoline mileage and wear and tear on the car. The most

important of these was reflected in the driver. On the days I drove sensibly I was relaxed in the evenings and slept well. During the days of the hot rod driving I was restless and sometimes lost hours of sleep. At one stage of the experiment, my 17-year-old son remarked to his mother: "Dad must be hot-rodding again. He's irritable tonight.'

Another series of tests somewhat along a similar line recently were conducted by test drivers of an automobile manufacturer. They found that by timing their city driving to the flow of traffic and the setting of traffic lights they could cut their gasoline consumption 50 per cent. By reducing opc- country driving from 70 to 50 miles an hour, 25 per cent in savings were achieved. The engineer in charge said the tests show that the driver well determines whether his car will get the fuel economy the engineers have designed into it.



Car Dealers! You know, but most customers don't . . . "IT'S NOT THE CAR-IT'S HOW YOU DRIVE IT!" . . . that determines gasoline mileage. And now you can demonstrate that quickly, accurately, convincingly . . . with "LECTROTEST", the new Kent-Moore Electric Gas-Per-Mile Gauge. It gives you an inexpensive, portable method of solving owners' mileage complaints. TWO-WAY DEMONSTRATION shows 'em by eye, tells 'em by ear, that the engine is not at fault . . . shows the way to improved mileage

through correct driving habits. It's safe, accurate, installed on any car in less than 5 minutes . . . and a DOUBLE-BARRELED SALES TOOL as well! Clinches new car sales, eliminates doubt about used car performance. Write for complete information on "LEC-

TROTEST" today!

KENT-MOORE ORGANIZATION, INC. 5-105 General Motors Bldg. • Detroit 2, Michigan

QUICK, EASY WAY TO SOLVE "POOR MILEAGE" COMPLAINTS

FROWNS IN., FINDS OUT., FRIENDS AGAIN



ZONE STATE

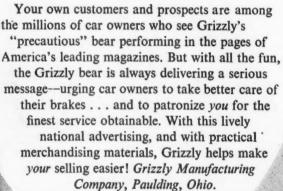
KENT-MOORE ORGANIZATION, INC. 5-105 G. M. Building, Detroit 2, Mich. Please rush me complete information on your new "LECTROTEST" Gas-Per-Mile Gauge." NAME FIRM ADDRESS.



SATURDAY EVENING POST .

THE GRIZZLY BEAR SELLS BRAKE SERVICE

TO ALL AMERICA!





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GRIZZLY
BEAKE LINING



COLLIER'S . SATURDAY EVENING POST . COLLIER'S . SATURDAY EVENING POST . COLLIER'S . SATURDAY EVENING







Grizzly merchandising materials, like these catalogs, mailing materials, and signs, enable you to make the most of Grizzly national advertising. Ask your Grizzly Distributor about them!





HARRISON THERMOSTATS good for cars...

good for you!

Automatic control of engine temperature, winter and summer, is essential to best engine performance, long engine life.

Harrison thermostats supply this automatic control. Right now, many motorists will be changing from their high-level (winter) thermostats to the Harrison summer-adjusted models. This is good business, for the motorists and for you. With only 10 different Harrison models you can service 90 per cent of the old as well as the current-model cars in operation today. For genuine Harrison thermostats—used as original equipment on more cars and trucks than any other make—call your nearest United Motors distributor.

HARRISON THERMOSTATS

A GENERAL MOTORS PRODUCT



A UNITED MOTORS LINE

DISTRIBUTED BY WHOLESALERS EVERYWHERE

HARRISON

HARRISON RADIATOR DIVISION

GENERAL MOTORS CORPORATION, LOCKPORT, NEW YORK

The best lead for dealers in '52

the ALL-NEW
Somerset



Lead with the economy car of the year for...

BIGGER PROFITS!

Especially designed to meet the needs of American motorists for a *quality* car that's economical.

- * Economical to buy
- ★ Economical to run

BACKED BY A HARD-SELLING LARGE-SPACE, NATION-WIDE ADVERTISING CAMPAIGN!

DEALERS! The valuable Austin franchise includes, besides The SOMERSET, the A-40 SPORTS CONVERTIBLE, the Deluxe A-90 ATLANTIC SEDAN, the A-40 COUNTRYMAN STATION WAGON and a line of light commercial vehicles. A few of these profitable franchises are available. Write or wire us, and our representative will call to discuss your application.

THE AUSTIN MOTOR COMPANY, LTD. (ENGLAND)

Austin House, 27-29 West 57th Street, New York 19, N. Y.

There is a <u>difference</u> in sealed-beam headlamps



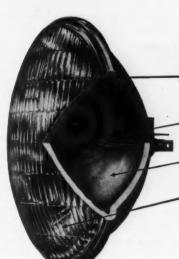


...and this is it

All-Glass sealed-beam headlamps do not grow dim

When moisture collects inside a headlamp and deteriorates the reflector, it cuts light output. Unless headlamps are All-Glass, you may be able actually to see traces of moisture inside. But there's one way to be *sure* your customers' headlamps are not growing dim. Replace them with G-E All-Glass headlamps. Because they're *All-Glass*, all one big bulb, there's no way for water to get in.

Tests show that General Electric sealed-beam headlamps average 99% as much light after years of service as when new. Be sure to recommend and install G-E All-Glass headlamps.



One-piece All-Glass construction. Dirt and moisture can't get in.

Filaments held in vise-like grip. Can't shake loose.

Mirror-like, butttin reflector. Stays bright.

Rugged, hard-glass precision lens to put light where you want it.

You can put your confidence in-

GENERAL & EL



just push a button ... and

TALK!

Countless dollars are wasted every day when employees leave their work to reach people in other departments! Executone Intercom gives everyone instant contact with everyone else.

Helps Step Up Production — With Executone, everyone is always within talking distance — without taking a single step! With the speed of sound, questions are answered, information exchanged, material ordered and personnel located. With people on the job, you get more work done faster!

Cuts Operating Costs — Executone relieves the switchboard of all "inside" calls, frees phones for receiving important customer calls. Executone quickly pays for itself with increased production and efficiency.



Executore intercom sustems

re., New York 17, N.Y. on, please let me have:
your local Distributor. ive literature.
TITLE

Calendar of Coming Events

June 1-6—Society of Automotive Engineers, summer meeting, Ambassador and Ritz-Carlton Hotels, Atlantic City, N. J.

June 3-5—Automobile Dealers Assn. of Ontario, Hamilton, Ontario.

June 13-15 — Automobile Trade Assn. of Maryland, meeting Ocean City, Md.

June 23-27 — 50th Anniversary meeting, American Society of Testing Engineers, New York City.

Aug. 11-13—Society of Automotive Engineers, national West Coast meeting, Fairmount Hotel, San Francisco.

Aug. 24-26 — Automobile Dealers Assn. of West Virginia, Greenbrier Hotel, White Sulphur Springs, W. Va. Sept. 10-12 — National Petroleum

Assn. 50th annual meeting, Traymore Hotel, Atlantic City, N. J.

Sept. 11-12—Colorado Motor Car Dealers Assn., Shirley Savoy Hotel, Denver.

Sept. 12-13 — Maine Automobile Dealers Assn., Samoset Hotel, Rockland, Me.

Sept. 14-16 — Georgia Automobile Dealers Assn., General Oglethorpe Hotel, Savannah.

Sept. 14-16—Kentucky Automobile Dealers Assn, DuPont Lodge, Cumberland Falls, State Park, Ky.

land Falls, State Park, Ky.
Sept. 14-16—New York State Auto
Dealers Assn., Hotel Syracuse, New
York.

Sept. 15-16—Wisconsin Automotive Trade Assn., Schroeder Hotel, Milwaukee.

Sept. 15-16—Automobile Dealers Assn. of North Dakota, Elks Club, Fargo, N. D.

Sept. 20-22—South Carolina Automobile Trade Assn., Ocean Forest Hotel, Myrtle Beach, S. C.

Sept. 21-23—South Dakota Automobile Dealers Assn., Cataract Hotel, Sioux Falls.

Sept. 21-23—Arkansas Automobile Dealers Assn., Arlington Hotel, Hot Springs National Park, Arkansas.

Sept. 22-26—Federation of Automobile Dealers Assn., of Canada, Montreal, Que.

Sept. 25-26—New Jersey Automotive Trade Assn., Traymore Hotel, Atlantic City, N. J.

Sept. 29-30—Minnesota Automobile Dealers Assn., Nicollet Hotel, Minneapolis.

Oct. 9-11—Pennsylvania Automotive Assn., Chalfonte-Haddon Hall, Atlantic City, N. J.

Oct. 19-21 — Florida Automobile Dealers Assn., Sans Souci Hotel, Miami, Fla.

Oct. 20-24—National Safety Council, national exposition, Conrad Hilton Hotel, Chicago.

Nov. 3-4—Society of Automotive Engineers, Chase Hotel, St. Louis, Mo. Nov. 6-7—Society of Automotive

Nov. 6-7—Society of Automotive Engineers, Mayo Hotel, Tulsa, Okla. Nov. 10-13—American Petroleum Institute, annual meeting, Conrad Hilton Hotel, and Palmer House,

Chicago.
Nov. 30-Dec. 5—Society of Automotive Engineers, Statler Hotel, New York City.

Dec. 7-9—Ohio Automobile Dealers Assn., Statler Hotel, Cleveland, Ohio.



Be way ahead with NATIONAL Brake Block and Seg-Mold . . . Available to meet the individual requirements of all passenger cars and trucks. You can't find a better brake lining anywhere! That's the result of Equalized Friction—NATIONAL's laboratory-exact combination of the right materials engineered for perfect balance, more efficient braking . . A generation of research and development has gone into it!

Look into the attractive money-making deal NATIONAL has for you. Write now for complete information and latest easy-to-read catalog to Dept. B.









GET HYPRESSU

with "built-in" STEAM THORO-PURGE

The World's Only "TWO-IN-ONE" Steam Cleaner and Cooling System Flusher.

HYPRESSURE JENNY DIVISION

No other piece of Automotive service equipment can bring more profitable work into your place than Hypressure JENNY with "built-in" Steam Thoro-Purge.

With this simple, single unit you can clean a car motor @ \$4.50 for 15 minutes work; average \$9 per job on cooling system cleaning; clean chassis, parts, brake lining, white side-wall tires; prepare for undercoating, etc. \$300 or \$400 more business a month is only a starter.

Besides creating profitable new business, Jenny will save you time, labor and expense cleaning your equipment, lifts, floors, driveways, walls, and lavatories - 10 times faster and better, than you can scrub them by hand.

Every service station needs both a steam cleaner and a cooling system flusher. But why buy two when one Hypressure Jenny with "built-in" Thoro-Purge will do?

Write today for Free Booklet, "1001 Ways to Extra Profits with Hypressure Jenny."

HOMESTEAD VALVE MANUFACTURING CO.

Serving since 1892
Coraopolis, Pa.







But the exhaust system can be new from stem to stern and the driver could still be asphyxiated. If his car is developing enough blowby, the gases will enter the car from the engine compartment through openings in the firewall. Blowby should be noted in every

Classified Advertisements

FOR SALE: Garage and welding, 200 feet frontage, filled and leveled on highway 17-92 (Orange Blossom Trail). New block building 71 x 30. Six lots. Ample parking space. Good steady local trade. Sunnyland Garage. Kissimmee, Fla.

SALES OPPORTUNITY — National organization has opening for salesmen with proven sales record. Protected territory. Lucrative income. Product covered by U. S. patents. Imperative you own late model car and be free to travel state. Must be bondable and financially responsible. Knowledge of auto bodies preferred. Age limit 25 to 45. Only energetic, aggressive men meeting these requirements need apply. State all qualifications first letter. Unlimited earnings. Box 19, Motor Age, 5601 Chestnut St., Philadelphia 39, Pa.

WANTED: SEVERAL BONAFIDE, PROVEN EXPERIENCED, HUDSON MECHANICS FOR MIAMI, FLORIDA HUDSON DISTRIBUTORSHIP. Address Inquiries: Service Manager, Hudson Price Motors, Inc., 2100 Biscayne Boulevard, Miami, Florida.

FOR SALE—AUTO SALES AND SERVICE. Est. 13 yrs., in progressive Pa. community. Grosses over \$20,000 yrly. Netted \$22,000 last yr. Nationally known Automobile Dealership. Also offers repair service and sells used vehicles very successfully. Sale includes 43' x 150' cement block bldg., lot, equipment, invty. & good will. Full price is \$80,000.

FOR SALE—AUTO PARTS. Grossing \$93,000, netting \$15,000 from sale & service of important franchises and nationally known parts and access. 80% wholesale; 20% retail. Loc. at busy intersection, 12 miles from Washington, D. C. Low rent for 32' x 87' cinder block bldg. Fully equipped, with invty., misc. assets & good will incl. at \$92,500.

FOR SALE—NATIONALLY KNOWN AUTOMOBILE DEALERSHIP. Netted over \$30,000 last yr. in large community near Flint, Mich. Sells new & used vehicles. Important franchises. Housed in 2-story 88' x 130' bldg. Offices & shop fully equipped. Price of business, land, bldg., equipment & good will is set at \$90,000 plus vehicle invty. at cost.

FOR SALE—TRUCK SALES & SERVICE —DEALER FRANCHISE. Loc. in central Texas. Netted \$15,000 last yr. on \$125,000 gross. Has exclusive truck franchise for 76 counties. Fully equipped. Housed in concrete block bldg. on 180' x 180' corner lot. Reasonable rental. Business, equip., invty. & good will priced at \$100,000.

FOR SALE—USED AUTO PARTS & USED CAR BUSINESS. Est. 23 yrs. on main st. of progressive Conn. community. Profits plus. Fully equipped. Housed in 2-story bldg. on 65' x 410' lot. Sale includes real estate, equipment, misc. assets valued at \$9,000 & \$25,000 inventory. Full price \$90,000.

CHAS. FORD & ASSOC., INC., 10 N. CLARK, CHICAGO, ILL.

exhaust system check. Do this by having someone put a load on the engine while you observe the amount of gas emitting from the breather pipes. To see the full volume of smoke that blows by, block off one breather (the top one is most convenient) and watch the amount of blowby coming out of the other.

While the only cure for blowby is an engine job, the fumes should be carried away from the engine compartment with flexible tubing, to reduce the danger until the permanent cure is made.





CASTOR SMIMS—5 degrees or thickness steel or aluminum.

AXLE SMIMS—1¾ to 4" in all degrees.

COIL SPRING SPACERS—top or bottom, contour or flat for all cars.

Ask your jebber or write direct

IIBO TOOL CO., 139 No. Mead, Wichita, Kan.



A"helping hand"

• Like "Power Steering" - latest of the GM driver aids it features - this current "Key" campaign advertisement is in a very real sense a "helping hand."

For it helps steer customers your way by discussing a highly popular subject - automatic devices which make driving safer, easier, less tiring.

What's more – by showing the typical GM research and engineering behind the presentation of such features—it underlines the fact that the key to a GM car is the key to better engineering and, thus, the key to greater value.

Of course, like all "Key" campaign advertisements, this will be seen in the top national magazines - usually in color, often in two-page spreads.



Just turning the ignition switch of a General Motors car calls to action a score and more of automatic devices that do everything from adjusting spark and choke to equalizing brake pressure. Others - at the push of a button-maintain visibility through storm, cold, or darkness, making driving simpler and safer.

And today automatic drives that eliminate manual gearshifting are And today automatic drives that eliminate manual gearshiting are available on GM cars, either as standard or optional equipment— Powerglide on Chevrolet, Dynaflow on Buick, Hydra-Matic on Pontiac,

Now comes Power Steering—the latest of all driver aids—optional on all Oldsmobile and Cadillac. 1952 Cadillacs, Oldsmobiles and Buick Roadmaster models. This automatic "helping hand" allows you to swing the wheel more easily—to get away from a curb-back into a parking space-make a turn. Saves fourfifths of the effort required for ordinary steering, yet you always enjoy the "feel of the wheel"-you always keep command.

In every way GM engineers are constantly striving to make driving safer, easier, less tiring. That's one more reason why the key to a General Motors car is your key to greater value.

to Greater Value --- The Key to a General Motors Car CHEVROLET . PONTIAC . OLDSMOBILE . BUICK . CADILLAC

BODY BY FISHER . GMC TRUCK AND COACH

them HENEY & SAYLOR on the air every Munday extering over the ASC Mowers, count to cond





now um engineers bank rash-bulum windows. To lower car windows and raise convertible tops automatically, a small electric motor pumps fluid through tubes similar to those in hydraulic brakes—and liquid pressure operates values that do the job. Here GM engineers check on hydraulic actuator to nydrautu: brakex-ana uqui the job. Here GM engines make sure it's troubleproof.







no brushing

no scraping

no heating

Metalclene is made under an exclusive Bendix formula. There are many copies, but there is no substitute. When you order, be sure to specify and get the original Bendix* Metalclene. *REG. U.S. PAT. OFF.

Just Dip 'em in Dirty — Pull 'em out Clean

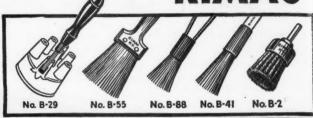
BENDIX PRODUCTS DIVISION of

SOUTH BEND 20, INDIANA



Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

A complete stock of LONG LIFE WIRE BRUSHES from



No. B-29 Distributor H e a d Brush.
Quickly cleans and dresses
distributor head sockets.
No. B-55 Muck Brush, Metal Handles.
Excellent for cleaning small

Excellent for cleaning parts.

No. B-88 "Utility" Wire Brushes. Ideal for cleaning battery terminals and removing solder, chips, filings, etc.

No. B-41 Parts Cleaning Brush. Pig Bristles set in Rubber. Does not collapse in water, oil or gasoline. No metal-no sparks.

No. B-2 Rotary Wire Brush for use with electric drills.



Valve Guide Brushes. Inter-changeable and economical. Five sizes handle 90% of passenger cars and light trucks. Over all length 11".

"Heavy Duty" Wire Wheel

"Spiral Twist" Wire Wheel Brush Sections.

See your jobber or Write us.

RINCK-McILWAINE, INC. 16 Hudson Street, New York, N. Y.

"JOURNALIZE"



ALL of the crankpins can be trued with Journalizers on any make car or truck without removing the crankshaft, cylinder head, knee action, axle, steering, oil lines, counterweights or engine supports. Simply remove the oil pan and spark plugs, install journalizer in place of engine bearing and the starter motor does the work. Tool is supplied with coarse and

fine replaceable inserts for rough cutting and polishing.



FOR FAST, ACCURATE. **ECONOMICAL** CRANKSHAFT TRUING

No special skill is required to HONE journals to a smooth round finish to give lasting bearing performance.



Journalizer will true No. 1 journal on ALL engines. "Universal Kit" of five sizes service passenger cars and most trucks (excepting Ford V8)\$35.00. For individual kits (\$7.00 each) specify engine and model when ordering.

POSTMA MANUFACTURING CO.

691 East 18th Street Paterson, New Jersey

62 61st Place Long Beach, Calif.

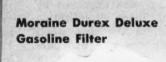
A LITTLE STOCK MAKES LOTS OF SALES

MORAINE Gasoline Filters

It doesn't take much to sell a lot of Moraine gasoline filters and gain some mighty pleased customers. Just a little shelf space will hold a stock of filters that will really pay their way. Every car needs a Moraine filter... every one of your customers is a prospect for the filter that keeps harmful dirt, water, lint and scale out of the carburetor. They're priced to sell... they're easy to install (required fittings included) and simple to service. Order a supply from your United Motors distributor and start to line your pockets with extra dollars.



Moraine All Metal Gasoline Filter



MORAINE PRODUCTS

GENERAL MOTORS
DAYTON, OHIO



A UNITED MOTORS LINE
Available Everywhere Through
UNITED MOTORS DISTRIBUTORS

There are DELCO LINED BRAKE SHOES for every SECOND car on the road.

Sets of Delco Lined Brake Shoes are made for GM cars and light trucks—so every other car you see is a prospect for the brake shoes that are dimensionally accurate, fitted with the original-equipment lining.

You can SELL and PLEASE every brake customer with DELCO BRAKE FLUID.

Two Delco brake fluids—Super 9 and Super 11 Heavy-Duty—will fill the needs of all your customers for high-quality brake fluid that meets all SAE standards. Order from your United Motors distributor—packed in 8-ounce bottles to 54-gallon drums.



IMMEDIATE DELIVERY



O. P. S. APPROVED

The current 1952 edition of Chilton's Motor Age Flat Rate and Service Manual was approved by the Office of Price Stabilization on April 2nd, at the time when Chilton subscribers who had pur-

This was an early approval date by O. P. S. and an exceptionally early delivery date of the Manual; and our regional sales and service representatives are now delivering the Manual in the field as they call on Chilton's Motor Age customers.

chased it in advance were receiving

their copies through the mail.

If you have not as yet seen this new Manual, wait for your Chilton Man. He is on his way to show you this amazing book which is the largest and greatest that Chilton's Motor Age has ever produced.

It is 1432 pages, weighs 9 pounds, and is 4 books in 1. One on Flat Rates, one on Parts, one on Data-Specifications, and one on Service Procedure. Never before has there been a book of this size and scope, or one so easy to refer to.

COMPLETE PARTS DATA

The first general parts list that is 100 per cent complete. The largest ever. Hundreds and hundreds of pages. Every service part on every make and model for twelve years

is listed and priced. And every service part is illustrated, both separately and as a part of its unit assembly in big, exploded views. See every service part you order. Eliminate mistakes and lost time in ordering wrong parts. Use the parts pictures for assembling and disassembling.

ALL DATA AND SPECIFICATIONS

Over 148 pages of data tables of fits, tolerances, settings and adjustments. Every specification you will ever need is here. Nothing is left out. Tables are in big, readable type.

BIG, NEW SERVICE PROCEDURE SECTION

Hundreds of pages of procedure for each make and model covering 12 years. Trouble-shooting instructions, tune-up and adjustment data. Major overhaul methods. Valuable, easy-to-follow charts.

All new material. New photos. over 500 pages.

On all cars from 1940 through 1952. Indexed for quick reference. Most modern Service Manual in existence. Streamlined for today's needs.

100 PAGES OF FUNDAMENTALS

With mechanics getting scarce and new mechanics needing to be trained, this Section is a godsend. Devoted to the basic use of tools and equipment—how to use them most efficiently. Created with the cooperation of leading tool and equipment makers who loaned Chilton the equipment and their experts to work with us in the explaining of basic procedure.

Explains the why of each basic job. Gives beginners and experienced mechanics deeper insight into operations they are required to perform. What is understood is done best.

QUICK REFERENCEFLAT RATES

Entirely revised Flat Rate Section makes for more rapid reference. New, simplified arrangement eliminates any possibility of misunderstanding. New groupings of operations together with more extensive breakdowns of jobs makes this the simplest, easiest system to use.

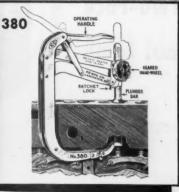
CHILTON PRICES

These are time-studied Chilton Labor Charges, fair to the shopman, that really count all the time required on basis of average mechanic working on used cars. Factory hours are also supplied.

NEW, EXPANDED TRUCK DATA

All Flat Rates for Trucks and Models from 1942 through 1952. Truck Tune-up Data and Specifications. Up to and including 2 tons—the ones repaired by car dealers and independent repairshops.

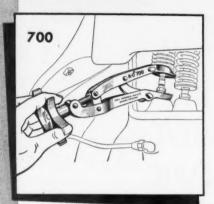




A "universal" Compressor for L- and Overheads.

Popular and ideal for most all L- and valve-in-head engines, old and new. Speedy, one man operation, with exclusive automatic depth adjustment. Quick operating handle, sturdy steel frame. K-D No. 380.

FREE CATALOG. Illustrates over 100 K-D Tools for your Toolbox. Write today.

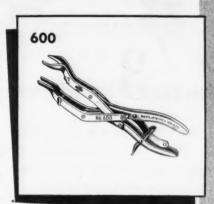


"Shorty" for L-heads (incl. Ford!)

K-D 700 Valve Lifter for hard-to-get-at valves. Specially designed for easy replacement of valve locks. Services: all Chrysler-built and other low-hung L-head motors. Also for Ford 6 cyl. after 1948. Automatic locking any height. 8" long.

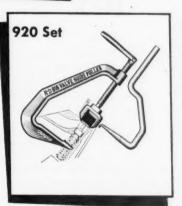
Long time favorite for L-heads.

K-D 600 Valve Lifter. Scissors type, well known for its speed on L-heads old or new. Parallel jaw action. Automatic locking any height for free use of both hands. Ratchet lock release.



Pulls Ford V-8 Valve assemblies no matter how tight they're stuck!

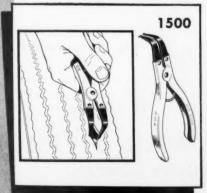
For all V-8's '34 to '51 except 60 hp & 150 hp Truck & Lincoln. 917 Driver removes retainers. 918 Puller removes guide assembly. With 923 Adaptor, services 6 cyl. to '48. 917 & 918 make 920 Set.





Special Tools for 150 hp Ford Truck & Lincoln, '49-'50-'51.

930 Compressor raises spring to remove keepers. 935 Compressor removes spring after keepers out. Both used to replace assemblies. Both tools are absolutely necessary.



Fast, safe Tire Prober.

K-D 1500 Tire Probing Tool. Inserting pronged jaws into tire cuts and spreading them makes it easy to spot and remove imbedded foreign objects. Fast, safe without injury to tires. Sturdy.

Motorists' item. Sells itself.

Deluxe auto clothes hanger. Every motorist a prospect for a pair. Ready to use—no bolting or assembling. Spillproof, rustproof. 12 on display card. Good profit returns. Can be imprinted.



K-D TOOLS . K-D MFG. CO., LANCASTER, PA.

NEW Sparton Two-Face Directional Signal Lamp

Series 600-Class "A"



Gives you powerful sales clinchers

DEPTH ONLY 2"! ONLY ONE BULB! LIGHTWEIGHT!

Here comes a winner for sure! Skillful Sparton design brings you a thinner lamp with one bulb, one set of wires. Light weight eliminates fender tearing. Stimsonite lens gives powerful beam without reflectors. Finished in black enamel with chrome-trim bars on each side.

Meets SAE requirements and has passed all required tests by The Electrical Testing Laboratories Inc.

Other Sparton Series 600 Stars . . .









Red-#651 Red-#6105 -4652 Amber-#6106

Single-face pedestal lamp (left), full-flush lamp (center) and semi-flush stud-mounted lamp (right) available individually or in complete sets with self-cancelling switch.



MAKERS OF QUALITY AUTOMOTIVE SINCE 1900

Division of THE SPARKS-WITHINGTON COMPANY

JACKSON. MICHIGAN

Direct Route to 33,000 EXECUTIVES IN 4567 AUTOMOTIVE PLANTS

via the



For Direct Mail users who want to reach the buying power of the industrial automotive field effectively and economically, Chilton maintains a Direct Mail Service, including:

A daily-corrected, personalized mailing list of 33,000 automotive engineering, production, administrative, sales and purchasing executives in 4,567 plants making cars, trucks, buses, aircraft, engines, parts, accessories, road and farm implements . . .

Plus-selective addressing by type of executive and product . . .

And-multigraphing, vari-typing, automatic letter-writing, sorting, stamping, mailing.

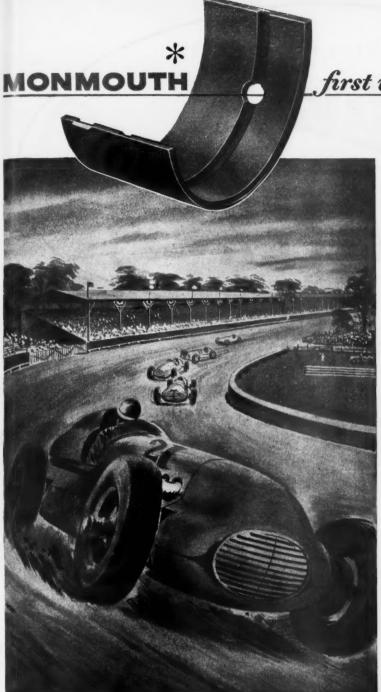
Chilton Direct Mail Service is complete, timesaving and tailor-made to fit your specific needs. For complete information, write today to

DIRECT MAIL DIVISION CHILTON COMPANY

Chestnut and 56th Sts.

Philadelphia 39, Pa.

UTOMOTIVE HEADQUARTERS



first with the finest

The ABC's of CLEVITE* 77

ADVANCED DESIGN AND CONSTRUCTION

BETTER SURFACE ACTION

COMPARATIVE PERFORMANCE UNEXCELLED

CLEVITE 77's should be used only where engine manufacturers' specifications call for Clevite 77, that is, in those specific applications where engine characteristics, load and operating conditions require bearings with great fatigue resistance.

Truck and bus fleet operators, racing cars, contractors' heavy off-the-highway equipment require the kind of engine bearing performance that Clevite 77 alone can give.

For replacement use, Clevite 77's are sold under our Monmouth Brand. SPECIFY MONMOUTH!



CGB FIRSTS: The development of continuous strip casting, 1929—thinwall babbitt lined steel-backed bushings, 1931—continuous casting of copper lead on steel strip, 1934—tri-metal bearings, 1938—Micro* Bearings, 1939—Clevite 77, 1944—and others which have helped to revolutionize the lined bearing industry.



FORMFLEX



THE RINGMASTER

Guaranteed to outperform in any job...Re-ring...Re-bore...Re-sleeve

First major improvement in multiple-piece piston rings in more than 10 years

It's the sensational new EQUALIZER that sets FORMFLEX ahead of <u>all</u> other oil rings!

An entirely new engineering principle that replaces the hump-type expander. FORMFLEX adapts itself to practically all conditions of cylinder wear and distortion... gives even contact with cylinder regardless of wear. The FORMFLEX EQUALIZERS' uniform pressure distribution gives equal outward pressure at all points. It makes possible for the first time a multiple-piece oil ring you can use in all kinds of engines regardless of taper, out-of-roundness or block distortion.

Ring jobs you can guarantee!

FORMFLEX... the ring you can guarantee to your customers for all worn, rebored or resleeved engines.

- · Easy to install
- No more worries about groove depth
- . No humps to wear out
- Handles 21/2 times as much oil as any other ring
- Truly a universal ring that sets new standards in oil control, gas mileage and long life

Get the complete story from your jobber.

There's a "NEW ENGINE" in every box.



ENGINEERED FORMFLEX SETS

WILKENING MANUFACTURING CO., PHILADELPHIA 24, PA.

In Canada: WILKENING MANUFACTURING CO. (Canada) Ltd., Toronto

The Mysterious Case of

FISHEYE BLISTERBOTTOM



How the TINTOMETER revealed his true colors!

DO YOU REMEMBER old Walter Slade? I can still see his tired face just as he was seven years ago; just as he was on that warm Spring day when he sold his auto paint shop to me and lit out for old Wyoming. I never saw Walter after that, but I never forgot what he told me.

Would you like to hear it in his own words? This is the mysterious case of Fisheye Blisterbottom . . . the story of the

Beast . . . just as Walter told it to me.

"Son, I want to warn you. Be on the lookout for this low monster. No prison has ever been able to hold him!

"How low can a man get? Well, let me tell you, they don't come lower than Fisheye. His specialty is robbing car painters. Could any act be more loathsome?

"Well, son, to go on with my story... Fisheye crept into this very shop through a back window one dark afternoon. I am convinced to this day he thought I was asleep, but I saw him instantly and rushed at him with the butt of my spray gun.

Write today for your copy of the helpful R-M Refinishers' Manual. He vanished like a ghost, with a case of my prize R-M Black Lacquer under his arm.

"The police caught him that same day, but the evidence had disappeared . . . everything was gone except a smudge of green enamel on his coat. This was all I needed! The police were amazed when I told them the exact formula of that green enamel, explaining to them that I had just prepared that car color on my R-M Tintometer, according to R-M's color formula, right down to the one-thousandths part of measurement!

"In his haste, Fisheye had spilled some of the color on his coat; it sealed his doom! The R-M Tintometer revealed Fisheye

in bis true colors!"

Ask your R-M Jobber to explain the scientific, profit-saving R-M Tintometer Color matching system.



15 EASY TO GET STARTED Delco-Remy

The Foundation of Your Service Business

ES-IT'S EASY! NO BIG INVESTMENT NO COMPLICATED PROCEDURE

Here is an easy-to-get-started special assortment of some of the fastest moving ignition parts—coils, condensers, contact point sets, rotors and distributor caps. There are more calls for electrical service than any other service and Delco-Remy provides a permanent market of pre-sold customers. It's important that you build your service business on a secure foundation provided by the leader—Delco-Remy.

UNITED MOTORS LINES ARE THE BEST TO TIE IN WITH

DELCO Batteries

AC GAUGES, Speedometers and Rebuilt Fuel Pumps

SAGINAW Jacks

MORAINE Engine Bearings

DELCO Radio Parts

ROCHESTER Cigar Lighters

HYATT Roller Bearings

INLITE Brake Lining

HARRISON Heaters

GUIDE Lamps

DELCO Clocks

NEW DEPARTURE Ball Bearings

DELCO Shock Absorbers

MORAINE Gasoline Filters

HARRISON Thermostats

DELCO-REMY Starting, Lighting & Ignition

KLAXON Horns

HARRISON Radiators

ROCHESTER Carburetors

DELCO Hydraulic Brakes

A MARKET THAT'S UNEXCELLED!

Nearly half the cars, trucks and buses that pass your door are Delco-Remy equipped. Yes, this certainly is a market to use as a foundation for your service business.

LATEST PRODUCT DESIGN!

Delco-Remy with its original equipment keeps ahead of the field in product design. Such innovations as the first starter are among the Delco-Remy firsts—you can be sure of a quality original-equipment product with Delco-Remy.

LATEST TECHNICAL INFORMATION!

You are kept up to date with all the latest technical information and instructions. Some of this very same technical information is used in text books, schools and colleges.

A COMPLETE LINE!

This is important—Delco-Remy makes available to you not only parts for the latest model cars but parts for older models as well. This means that you can take on the Delco-Remy line with full confidence. See your local Delco-Remy wholesaler now.

DELCO-REMY

A GENERAL MOTORS PRODUCT



A UNITED MOTORS LINE

DISTRIBUTED BY WHOLESALERS EVERYWHERE UNITED MOTORS SERVICE

Division of General Motors Corporation

General Motors Building

Detroit 2, Michigan

motor recons

Sealed Power Piston Rings Mean BIG Business...

These informative half page ads on "Care and Feeding of Engines" are setting new records for "getting attention." Because of these and similar ads in other top publications more and more people are demanding Sealed Power Piston Rings.



Sealed Power Piston Rings

are advertised in Mechanix Illustrated ...

Because Sealed Power knows MECHANIX ILLUSTRATED attracts millions of motor-minded men regularly with feature automotive articles written by two of the leading writers in the field... Tom McCahill and Fred Russell.

Sealed Power knows the importance of this influential group of piston ring buyers. That's why they continue to tell this great audience about the outstanding advantages of the MD-50 Steel Oil Ring, "the only ring with the Full-Flow Spring, and the new KromeX Piston Ring Sets. You have a presold market waiting for you when you stock and sell Sealed Power Piston Rings.



MECHANIX ILLUSTRATED

A FAWCETT PUBLICATION 67 West 44th Street, New York 36, N. Y.



"Whenever you take out an oil seal, always replace it with a new one..."

With National service stocks, you have the right seals when, where you need them. Cabinet comes with the deal, jobber keeps stock up. Stocks "tailored" for different needs. Ask your jobber, today!

Service stocks to fit your needs



... and be sure the new seal is a National!

You'll save time, and you'll do a better, more dependable job. That old seal may look good—but laboratory inspection would show it's out-of-round, has a worn sealing member or a nicked sealing lip. Any of these can cause a leak. So whether you're working on a shiny new convertible or a big fleet rig, play it safe. Replace with new National Oil Seals—every time!

NATIONAL MOTOR BEARING CO., INC.

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OIL AND GREASE SEALS

Approved original equipment for all cars, trucks, busses and tractors.

THESE SERVICE SUNNERS WINNERS

ARE TIME SAVERS-MONEY MAKERS

When you have a tough service problem to lick, check your Champ-Items Catalog. There's usually just the part you need to help you do a Better—Faster—Safer job at a profit. Yes, the more than 200 Champ-Items are real time savers—money makers for the replacement trade.

ORDER FROM YOUR JOBBER

CHAMP-ITEMS, INC.



THIS SERVICE WINNER Does the Job!



No. 521 CARD. WINDOW HANDLE CRANK KNOBS for all cars and trucks. Made of polished aluminum, 12 mounted on attractive display card. List 35c each.

Send today on your letterhead, for copy of new item supplement to Champ-Items catalog 500-R



JUNE IS NATIONAL "GET-THE-DENTS -OUT-OF-YOURFENDERS" MONTH!



WRITE TODAY FOR YOUR FREE BUSINESS-BOOSTERS

Get the complete set of "GET-THE DENTS-OUT-OF-YOUR-FENDERS"

Month sales-starters and sales-clinchers. Here's what you get—FREE from 3M:

I BIG POSTER

ENVELOPE STUFFERS

5 SPOT ANNOUNCEMENTS

6 DASH-BOARD TAGS

PERSUASIVE POST CARDS

NEWSPAPER ADS

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RUSH ME 3M'S FREE set of "GET-THE-DENTS-OUT-OF-YOUR-FENDER" Month business-builders.

Name.

City

State

Made in U.S.A. by Minnesota Mining & Mfg. Co., St. Paul 6, Minn.—also makers of "Scotch" Brand Pressure-sensitive Tapes, "Scotch" Sound Recording Tape, "Underseal" Rubberized Coating, "Sootchlite" Reflective Sheeting, "Safety-Walk" Non-slip Surfacing, "3M" Abrasives, "3M" Adhesives, General Export: 270 Park Avenue, New York 17, N. Y. In Canada: London, Ont., Canada.



ORIGINATED AND SPONSORED BY 3M COMPANY—MAKERS OF "SCOTCH"
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EXTRA SALES! Bigger Profits!

REPLACEMENT FOR MOST CARS FROM 1935 to 1952



(1952 BUICK GRILLE ILLUSTRATED)

ALSO STEEL GRILLES -SHELLS FOR

Pontiac. Plymouth, Chevrolet. Buick. Dodge, Ford. Mercury

ALSO CAST ALUMINUM **GRILLES FOR**

Buick, Dodge, Chrysler, LaSalle. De Soto, Olasi Packard Oldsmobile.

Here's America's BIGGEST GRILLE VALUE! Priced to enable you to undersell Auto Agencies from 25% to 50%. We build a strong, long lived grille—using durable aluminum for castings, and the Finest, Prime quality cold rolled steel for stampings. Guaranteed and double spot-welded for extra

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SEND for FREE CATALOG AND THE NAME OF Your Nearest JOBBER to

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Repair and tenance Costs Extra Profit with the



Removes caked-on oil, dirt and grease from autos, trucks, tractors, and other equip-ment. Cleans faster than any other method. Cuts repair and maintenance time to a

ment. Cleans faster than any other method. Sets a regular steam cleaner. 2. With mere fraction.

The "CIRCO" is "THREE-IN-ONE". 1. Use as a regular steam cleaner. 2. With the RADI-FLUSH optional attachment the CIRCO Steam Cleaner can be used as a cooling system flusher. Quickly attached to Standard gun for cleaning and reverse flushing of clogged and sluggish automobile, truck, tractor and other engine radiators.

3. With the AQUA-JET-GUN optional attachment, the CIRCO can be used as a high pressure rinse unit delivering 480 gallons of hot water per hour at any temperature set by operator.

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MANUFACTURERS OF

PER-SOLV (Perchlorethylene) . CIRCO-SOLV (Trichlorethylene) CIRCO VAPOR DEGREASERS . METAL PARTS WASHERS . DRYERS SOLVENT RECOVERY STILLS . STEAM CLEANERS



Buckingham Thread Restorer

Now - no more drilling or hack sawing to replace damaged male threads! Buckingham Thread Restorer eliminates flats and nicks -cleans heavily rusted and corroded threads on studs, bolts, pipes, threaded shafts.

Simple - quick. Just slip on a Buckingham Thread Restorer at bottom of damaged area and back-off. Jaws adjust to any pitch - SAE, ASME, pipe or tapered. One tool handles many sizes . . . no die sets needed!

Eight models for 1/4" to 6" threads. Write for free folder and name of nearest dealer.

BUCKINGHAM MANUFACTURING CO., INC. 59-65 Travis Street Binghamton, N. Y



- · Grinds wet or dry
- Valve stem range ¼" to 11/16" with three collets
- · Five-inch grinding wheel
- Valve head capacity up to 3½", within valve stem range
- V-type table ways requiring no adjustment for wear
- Zero to 90° positive-stop face angle settings—with minus 1° for any angle
- Collet-type work head with controlled rpm's
- Concealed coolant system
- Right-hand table traverse arm
- · Precision built for accuracy!

K. O. LEE COMPANY, ABERDEEN, SOUTH DAKOTA WET VALVE REFACERS . VALVE SEAT GRINDER SETS . STUD WRENCHES VALVE SEAT INSERTS . RESEATER SETS . ELECTRIC DRILLS . SANDERS ROD ALIGNERS . POLISHERS . HAND GRINDER SETS . REAMER DRIVES

NEW CASCO SPOTLIGHT

A PAIR of On-the-Post Spotlights equals the cost of ONE regular type Spotlight -plus installation



NEW On-The-Post spotlight has all the eye appeal and light power of more expensive thru-the-post types ... yet is easily installed in minutes with a ¼" drill and a screwdriver. Rigidly affixed to windshield post with 2 selfthreading Phillips Head screws and is turned on and off by a toggle switch mounted on the dashboard.

CASCO STANDARD 6 volts No. 5-240 (also available in 12 volts) LIST PRICE

tax incl.

MIRROR ATTACHED (as shown) \$ 7 tax incl. CASCO DELUXE

LIST PRICE



CASCO SPOTLIGHT MIRROR... Fits Most Spotlights!

Casco's new 4" Spotlight Mirror is encased in heavy gauge brass, brilliantly chrome plated, mounted on a free action swivel to a streamlined bracket that fits most spotlights . . . left or right. Its double thick, polished bevel plate glass is weather sealed. Complete with No. 5-10 attaching plate and screws. LIST PRICE

WITH INTRODUCTORY OFFER STANDARD "ON-THE-POST"

SPOTLIGHTS-No. 5-240 YOUR COST @ 8.40.....\$25.20 TOTAL RETAIL VALUE (tox incl.)... 42.00 \$25.20 YOUR PROFIT \$16.80

INTRODUCTORY OFFER

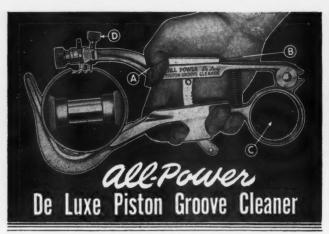
DELUXE (mirror mounted)
ON-THE-POST" SPOTLIGHTS— No. 5-240M

YOUR COST @ 10.20 \$30.60 TOTAL RETAIL VALUE (tax incl.) 51.00 \$30.60 YOUR PROFIT \$20.40 You Get

OFFER LIMITED!



ORDER TODAY!



A NEW and Revolutionary Principle In Piston Groove Cleaners

OPERATION — The locking principle is quickly executed and positive. No back slipping. The large ring at "C" for inserting the finger in revolving the tool. Pressure at "A" locks the tool. Pressure at "B" releases it. Ring Groove Set Screw, letter "D" prevents cutter blade from dropping into large oil holes or slots in the ring groove. No other groove cleaner compares in its mechanical advantages.

CUTTER BLADE—The quick-setting, self-aligning, large, five-prong cutter blade feature permitting quick operation in adjusting to the ring-groove widths.

SERVICES RING GROOVES, WIDTHS OF 3/32" & 1/4", incl., & Pistons 21/2" to 5".

Stocked by all leading jobbers

ALL-POWER MANUFACTURING CO.

400 ROOSEVELT AVENUE, MONTEBELLO, CALIF.

Engineered Ampio



verywhere on america's Highways



and the Miley method of bonding shoes is a factory job from start to finish—the only one using an absolutely UNCURED lining to give—

No squeaks, no powdering; a closer, tighter fit; quicker, safer stops; longer mileage, because the bonding and final CURING is done in ONE baking operation.

So let your Miley jobber or rebuilder do your Mileybonding for you according to rigid, factory specifications—he can do it easier, faster, cheaper, with greater profits for you.

Mileybond is your BOND for Safety — Satisfaction

L. J. MILEY CO.

Manufacturers of
Brake Lining, Brake Shoes, Re-built Cylinders
18 S. Sangamon • Chicago 7, Illinois



BUY BONDS



ALL-POWER

A Babe in a Bathing.

taught me how to sell more Purolators"

"You know," thinks back Dealer Sam Smith, "it all started last summer down at the lake when I saw a beautiful number getting herself weighed.

"I was looking at her, as who wouldn't, when that weighing business rang a bell with me . . . Why not weigh a dirty refill right out of an engine—balance it up with a clean one . . . show how much stuff a refill really picks up?

"Well, I did just that; found the refill had picked up 2 lbs. of sludge. So I made me a display . . .





"Now my customers stop and look. And that's my chance to check their filter . . . to show them the dirty mess that's there in their own refills,



"As a matter of fact, lots of 'em depend on me to put in a new refill whenever they come in for an oil change. They understand now what a clean Purolator* refill does."



"Now that people see my display, we're filter checking almost every car that comes in-and, what's more, selling, most every car we check.

NO. I ... WITH EVERYONE!

No. 1 in design . . . Removes more dirt faster - including particles so small they're measured in microns, that's 39 millionths of an inch . . . leaves important additives in.

No. I in the way it sells · · · Protective Jacket with New DIRT-CHECK Windows speeds Filter-Check, makes sales come faster, easier.

PUROLATOR PRODUCTS, INC. Rahway, New Jersey, and Torente, Ontario, Canada

*Reg. U. S. Pat. Off.





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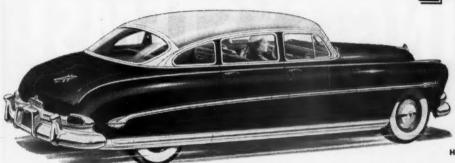
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Opportunity Unlimited for Hudson Dealers!

AND HERE'S WHY:



The fabulous Hudson Hornet has driven right into the national spotlight. In the grueling test of stock-car competition, it has proved time after time that you can't beat Hudson for power, durability and safety. No other car can offer a buyer so many exclusive and desirable features—and no other car gives a dealer so many powerful sales points.

HUDSON HORNET SEDAN IN

The spectacular new Hudson Wasp sets standards for performance and beauty that are totally new in its class. These Hudson exclusives make great selling ammunition—famous "step-down" design in the Monobilt body-and-frame* . . . America's lowest center of gravity . . . Triple-Safe Brakes . . . the world's best and safest ride!



Luxurious Commodores, Eight or Six, actively cover their share of the new-car market. And the thrifty new Pacemaker gives Hudson dealers a car that sells near the low-cost field. With four great series, Hudson dealers are ready to fill almost every buyer's demand.

4

New! Twin H-Power is another engineering "first" in the great Hudson tradition! Available now† for the Hudson Hornet, Hudson Wasp and the Commodore Six, this amazing system of multiple fueling wrings more power than ever before



amazing system of multiple fueling
wrings more power than ever before from every drop of
gas. There's never been anything like it for convincing
demonstrations.

†Optional at alight extra cost.



And More . . .

Hudson's basically better design means easy service, longer car life, satisfied customers. Recent national survey shows Hudson owners most loyal in the industry.

Hudson's rugged durability and better design pay off in used-car operations. Hudsons taken in trade are easy to recondition, give real buyer satisfaction.

Opportunity is unlimited for Hudson dealers! For those qualified, a few dealer franchises are still open in select areas. Send coupon today!

6

COMING THIS SUMMER



A new, lightweight wonder car that will sell in the lowest-price field. It will be new from stem to stern—more beautifully streamlined, safer and will have more power than anything seen in its class. It's a car made possible by Hudson's exclusive "step-down" design. It will boost Hudson dealers' already broad market coverage to 93.7% of the entire potential new-car market.

SEND FOR
CONFIDENTIAL
INFORMATION
ON THE NEW
LIGHTWEIGHT
WONDER CAR!

For special and confidential information about Hudson's amazing new, lightweight wonder car, clip this coupon and mail it today, to:

C. A. J. Hadley, Sales Manager Hudson Motor Car Company Detroit (14), Michigan

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ADDRESS		
CITY & STATE		
BUSINESS	POSITION	

'PRESSURE PURGER' ANALYZES & CLEANS COOLING SYSTEMS!

ANALYZES (On-the-Car)

- NOW you can quickly and accurately locate Cooling System defects "on-the-vehicle" by Analyzing!
 - 1. The Pressure Purger reveals the defects.
 - 2. Check sheets show your customer needed repairs and replacement parts.
- ONLY the PRESSURE PURGER will Analyze and detect faulty radiators, hoses, head gaskets, freeze plugs and other defective parts instantly.
- ONLY the PRESSURE PURGER enables you to make a positive "on-the-car" visual check of the Water Pump Action.

CLEANS (On-the-Car)

- ONLY with the PRESSURE PURGER can you Power Flush the entire Cooling System, Radiator and Water Jacket of the Block, Heater, Hoses and Heater—Any Capacity— All in—One Operation—in less time than it takes to remove a radiator.
 - 1. Feature Preventive Maintenance Service.
 - 2. Correct Overheating Conditions.
- ONLY the PRESSURE PURGER will enable you to render this much needed, complete Cooling System service to your customer and make extra dollars for yourself!

THE PRESSURE PURGER REMOVES DIRT — DOES NOT STEAM HEAT IT!

NOTHING CAN CLEAN OR ANALYZE LIKE THE PRESSURE PURGER!





CHOLDUN Manufacturing Corp. 331 East Street, New Haven, Conn.

- Please send me Complete details on the PRESSURE PURGER.
- Please have your representative call.

Name

Address

City...... Zone...... State.....

everything hangs on the fan belt!



Thermoid pre-stretched fan belts are "A horse of a different color"



Yes, everything hangs on the fan belt: cooling, lighting, and ignition systems—and your profits!

When a broken fan belt leaves one of your customers stranded on the road, he doesn't blame the fan belt—he blames you! So, make it a point to remind your customers that automotive engineers say a fan belt should be replaced every two years—or every 20,000 miles.

Make your replacements with Thermoid Fan Belts. Better fit means easier installation. What's more, they are pre-stretched to assure *lasting* fit. Thermoid Fan Belts don't stretch in service. Because they never slip, they last longer—give more dependable service.

Make it a practice to show your customers the advantages of replacing a worn or stretched fan belt *before* it fails. And make replacements with Thermoid Fan Belts.

Ihermoid

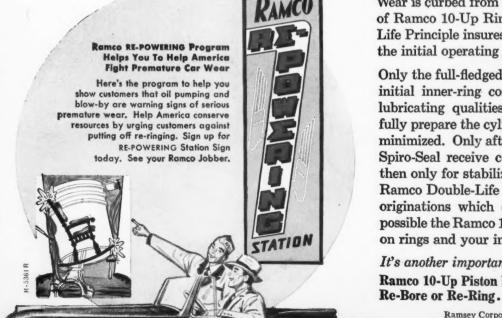
Brake Linings • Fan Belts • Radiator Hose • Hydraulic Brake Parts and Fluid • Car Mats • Clutch Facings • Thermoid Precision Process Equipment.

Thermoid Company • Trenton, New Jersey



another important reason why:

RAMCO



Wear is curbed from the very onset of an installation of Ramco 10-Up Rings because the Ramco Double-Life Principle insures proper wall preparation during the initial operating period.

Only the full-fledged Ramco 10-Up Oil Ring receives initial inner-ring contact. Thus the soft graphitic lubricating qualities of cast-iron are permitted to fully prepare the cylinder wall so that friction will be minimized. Only after this preparation does the steel Spiro-Seal receive contact with the inner-ring and then only for stabilization rather than pressure. The Ramco Double-Life Principle is one of many Ramco originations which CURB ENGINE WEAR and make possible the Ramco 10,000 Mile (one year) Guarantee on rings and your installation labor.

It's another important reason, too, why:

Ramco 10-Up Piston Rings Are Right for Any Job Re-Bore or Re-Ring .. Car .. Truck .. Bus .. Tractor

Ramsey Corporation, St. Louis, Missouri

Ramco National Advertising in Pos



